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# Access Free Time Travel And Warp Drives A Scientific Guide To Shortcuts Through Space Allen Everett

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## Time Travel and Warp Drives

## A Scientific Guide to Shortcuts Through Time and Space

**University of Chicago Press** Discusses what people understand about space and time and how science fiction is becoming less fictional as time goes on.

## Time Travel and Warp Drives

# A Scientific Guide to Shortcuts through Time and Space

**University of Chicago Press** To see video demonstrations of key concepts from the book, please visit this website: <http://www.press.uchicago.edu/sites/timewarp.index.html>. Sci-fi makes it look so easy. Receive a distress call from Alpha Centauri? No problem: punch the warp drive and you're there in minutes. Facing a catastrophe that can't be averted? Just pop back in the timestream and stop it before it starts. But for those of us not lucky enough to live in a science-fictional universe, are these ideas merely flights of fancy—or could it really be possible to travel through time or take shortcuts between stars? Cutting-edge physics may not be able to answer those questions yet, but it does offer up some tantalizing possibilities. In *Time Travel and Warp Drives*, Allen Everett and Thomas A. Roman take readers on a clear, concise tour of our current understanding of the nature of time and space—and whether or not we might be able to bend them to our will. Using no math beyond high school algebra, the authors lay out an approachable explanation of Einstein's special relativity, then move through the fundamental differences between traveling forward and backward in time and the surprising theoretical connection between going back in time and traveling faster than the speed of light. They survey a variety of possible time machines and warp drives, including wormholes and warp bubbles, and, in a dizzyingly creative chapter, imagine the paradoxes that could plague a world where time travel was possible—killing your own grandfather is only one of them! Written with a light touch and an irrepressible love of the fun of sci-fi scenarios—but firmly rooted in the most up-to-date science, *Time Travel and Warp Drives* will be a delightful discovery for any science buff or armchair chrononaut.

## Wormholes, Warp Drives and Energy Conditions

**Springer** Top researchers in the field of gravitation present the state-of-the-art topics outlined in this book, ranging from the stability of rotating wormholes solutions supported by ghost scalar fields, modified gravity applied to wormholes, the study of novel semi-classical and nonlinear energy conditions, to the applications of quantum effects and the superluminal version of the warp drive in modified spacetime. Based on Einstein's field equations, this cutting-edge research area explores the more far-fetched theoretical outcomes of General Relativity and relates them to quantum field theory. This includes quantum energy inequalities, flux energy conditions, and wormhole curvature, and sheds light on not just the theoretical physics but also on the possible applications to warp drives and time travel. This book extensively explores the physical properties and characteristics of these 'exotic spacetimes,' describing in detail the general relativistic geometries that generate closed timelike curves.

# How to Build a Time Machine

**Penguin** With his unique knack for making cutting-edge theoretical science effortlessly accessible, world-renowned physicist Paul Davies now tackles an issue that has boggled minds for centuries: Is time travel possible? The answer, insists Davies, is definitely yes—once you iron out a few kinks in the space-time continuum. With tongue placed firmly in cheek, Davies explains the theoretical physics that make visiting the future and revisiting the past possible, then proceeds to lay out a four-stage process for assembling a time machine and making it work. Wildly inventive and theoretically sound, *How to Build a Time Machine* is creative science at its best—illuminating, entertaining, and thought provoking.

## The Science of Time Travel

### The Secrets Behind Time Machines, Time Loops, Alternate Realities, and More!

**Simon and Schuster** Travel back in time with Doctor Who, the Terminator, the X-Men, and all your favorite time travelers! Science fiction is the perfect window into the possibilities and perils of time travel. What would happen if you went back in time and killed your own grandparent? If you knew how to stop a presidential assassination, would time travel allow you to make your wish come true? Can we use time travel as a tool to escape the destiny of our future or mistakes of the past? The Science of Time Travel explores time travel through your favorite science-fiction franchises, from the classic time travel paradoxes of Star Trek to the universe-crossing shenanigans of Doctor Who. Discover the real science behind questions such as: Can time travel really erase our past regrets like in *A Christmas Carol*? Is it worth killing people in the past to prevent a horrible future like in *Terminator*? What can we learn from living the same day over and over again like in *Groundhog Day*? Could time travel destroy our right to privacy like in *Deja Vu*? And so much more! It's time to fire up the DeLorean to 88 mph, jump into the TARDIS hiding in plain sight, or warp space with the USS Enterprise to explore what time travel means for us.

# Time Travel

## Ten Short Lessons

**JHU Press** During times like these, who hasn't daydreamed about traveling forward or backward in time? In Time Travel: Ten Short Lessons, popular-science master Brian Clegg gives a grand tour of the essential lessons in this game-changing area of physics, from the imagination of novelists to current research. Einstein's special theory of relativity told us that time travel to the future was possible, and later his general theory of relativity showed us that loops in spacetime could exist, meaning that we might be able to bend time backward, too. But what are the practicalities of making time travel possible? What do we still need to know? How do we deal with paradoxical twists in time—and could quantum physics hold the answer? Packed full of easy-to-understand diagrams and fact boxes, these ten lessons cover all the basics, as well as the latest understanding and developments, to enlighten the nonscientist. About the series: The Pocket Einstein series is a collection of essential pocket-sized guides for anyone looking to understand a little more about some of the most important and fascinating areas of science in the twenty-first century. Broken down into ten simple lessons and written by leading experts in their field, discover the ten most important takeaways from those areas of science you've always wanted to know more about.

## The Physics of Star Trek

**Basic Books** How does the Star Trek universe stack up against the real universe? What warps when you're traveling at warp speed? What is the difference between a wormhole and a black hole? Are time loops really possible, and can I kill my grandmother before I am born? Anyone who has ever wondered "could this really happen?" will gain useful insights into the Star Trek universe (and, incidentally, the real world of physics) in this charming and accessible guide. Lawrence M. Krauss boldly goes where Star Trek has gone-and beyond. From Newton to Hawking, from Einstein to Feynman, from Kirk to Picard, Krauss leads readers on a voyage to the world of physics as we now know it and as it might one day be.

# Back-in-Time and Faster-than-Light Travel in General Relativity

**Springer** For the past 20 years causality violations and superluminal motion have been the object of intensive study as physical and geometrical phenomena. This book compiles the results of its author and also reviews other work in the field. In particular, the following popular questions are addressed: Is causality protected by quantum divergence at the relevant Cauchy horizon? How much "exotic matter" would it take to create a time machine or a warp drive? What is the difference between a "discovered" time machine and a created one? Why does a time traveler fail to kill their grandfather? How should we define the speed of gravity and what is its magnitude?

## Time Travel in Einstein's Universe

## The Physical Possibilities of Travel Through Time

**HMH** A Princeton astrophysicist explores whether journeying to the past or future is scientifically possible in this "intriguing" volume (Neil deGrasse Tyson). It was H. G. Wells who coined the term "time machine"—but the concept of time travel, both forward and backward, has always provoked fascination and yearning. It has mostly been dismissed as an impossibility in the world of physics; yet theories posited by Einstein, and advanced by scientists including Stephen Hawking and Kip Thorne, suggest that the phenomenon could actually occur. Building on these ideas, J. Richard Gott, a professor who has written on the subject for *Scientific American*, *Time*, and other publications, describes how travel to the future is not only possible but has already happened—and contemplates whether travel to the past is also conceivable. This look at the surprising facts behind the science fiction of time travel "deserves the attention of anyone wanting wider intellectual horizons" (Booklist). "Impressively clear language. Practical tips for chrononauts on their options for travel and the contingencies to prepare for make everything sound bizarrely plausible. Gott clearly enjoys his subject and his excitement and humor are contagious; this book is a delight to read." —Publishers Weekly

# Frontiers of Propulsion Science

**Progress in Astronautics and A** "Frontiers of Propulsion Science" is the first-ever compilation of emerging science relevant to such notions as space drives, warp drives, gravity control, and faster-than-light travelthe kind of breakthroughs that would revolutionize spaceflight and enable human voyages to other star systems. Although these concepts might sound like science fiction, they are appearing in growing numbers in reputable scientific journals.

## Faster Than Light

## Warp Drive and Quantum Vacuum Power

**SCB Distributors** An amazing book on faster than light flight! H. David Froning, a 30-year veteran engineer who worked on several designs for future space travel propulsion, gives us this exceptional compilation of his discoveries, struggles and experiences in the realm of faster than light space travel. Central to the concept of faster than light travel is that the vacuum of space itself (the spacetime metric) can be utilized in propulsion systems. "Engineering the vacuum," as this is called, involves discovering how space can be altered to provide energy/thrust for future spacecraft. Packed with diagrams, some of which show how, as a starship accelerates away from Earth, it disappears and reappears in only seconds. But during these seconds of disappearance, the ship, in effect, leaps high above space-time and over stupendous distances to reach speeds that are billions of times greater than light-speed. Lots of great material on quantum vacuum power, anti-gravity propulsion effects, the velocity of light in spacetime altered regions, effective mass in spacetime-altered regions, warp drives, and tons more!

## How to Build a Time Machine

## The Real Science of Time Travel

**St. Martin's Press** A pop science look at time travel technology, from Einstein to Ronald Mallett to present day experiments. Forget fiction: time travel is real. In How to Build a Time Machine, Brian Clegg provides an understanding of what time is and how it can be

manipulated. He explores the fascinating world of physics and the remarkable possibilities of real time travel that emerge from quantum entanglement, superluminal speeds, neutron star cylinders and wormholes in space. With the fascinating paradoxes of time travel echoing in our minds will we realize that travel into the future might never be possible? Or will we realize there is no limit on what can be achieved, and take on this ultimate challenge? Only time will tell.

## Physics of the Impossible

### A Scientific Exploration into the World of Phasers, Force Fields, Teleportation, and Time Travel

**Anchor** Teleportation, time machines, force fields, and interstellar space ships—the stuff of science fiction or potentially attainable future technologies? Inspired by the fantastic worlds of *Star Trek*, *Star Wars*, and *Back to the Future*, renowned theoretical physicist and bestselling author Michio Kaku takes an informed, serious, and often surprising look at what our current understanding of the universe's physical laws may permit in the near and distant future. Entertaining, informative, and imaginative, *Physics of the Impossible* probes the very limits of human ingenuity and scientific possibility.

## Time Travel

### A Writer's Guide to the Real Science of Plausible Time Travel

**JHU Press** If you ever wanted to set up the latest and greatest grandfather paradox—or just wanted to know if the time-bending events in the latest pulp you read could ever happen—then this book is for you.

# Making Starships and Stargates

## The Science of Interstellar Transport and Absurdly Benign Wormholes

**Springer Science & Business Media** To create the exotic materials and technologies needed to make stargates and warp drives is the holy grail of advanced propulsion. A less ambitious, but nonetheless revolutionary, goal is finding a way to accelerate a spaceship without having to lug along a gargantuan reservoir of fuel that you blow out a tailpipe. Tethers and solar sails are conventional realizations of the basic idea. There may now be a way to achieve these lofty objectives. "Making Starships and Stargates" will have three parts. The first will deal with information about the theories of relativity needed to understand the predictions of the effects that make possible the "propulsion" techniques, and an explanation of those techniques. The second will deal with experimental investigations into the feasibility of the predicted effects; that is, do the effects exist and can they be applied to propulsion? The third part of the book - the most speculative - will examine the question: what physics is needed if we are to make wormholes and warp drives? Is such physics plausible? And how might we go about actually building such devices? This book pulls all of that material together from various sources, updates and revises it, and presents it in a coherent form so that those interested will be able to find everything of relevance all in one place.

## Nuclear Time Travel and the Alien Mind

**Nova Science Publishers** Some of the unfunded opportunities (UFOs), like the TR3B or TR6, are already flying; with this in mind, it may appear that this book is published too late. However, this is not the case. Both extraterrestrials and humans have developed craft of similar a "planform". Officials and the media continuously feed the masses incorrect information. Drive technology of the honestly endeavoring "human" is outdated. It seems to have been copied from some ancient Indian scriptures. Indeed, electrostatic, electromagnetic and rotating plasma drives deliver fermionic power, but they are far from allowing humanity to harness the power of a hyperspace jump. In 2017, NASA ensured us that "for the near future, [a] warp drive remains a dream". As a matter of fact, both human and extraterrestrial humanoids have hypothesized the use anti-gravity, warping and time travelling vehicles, even what they

call "living vessels". However, both have no theory, no theoretical foundations for nuclear time travel technology. This book delivers a few necessary basics concerning the possible future where this nuclear time travel could potentially become a reality.

## The Yoga of Time Travel

## How the Mind Can Defeat Time

**Quest Books** Time travel is not just science fiction; it may actually be possible. Wolf draws on yoga and quantum physics to show that time is a flexible projection of mind. Cheating time, he says, is an ancient metaphysical idea from the Vedas having to do with moving through meditation to a place where time stands still.

## I'm Working On That

## A Trek From Science Fiction To Science Fact

**Simon and Schuster** Over five decades, Star Trek's celebration of mankind's technical achievements and positive view of the future have earned it an enduring place in our global culture. Its scientific vision has also had a profound effect on the past thirty years of technological breakthroughs. Join William Shatner, the original captain of the Starship Enterprise, as he reveals how Star Trek has influenced and inspired some of our greatest scientific minds -- the people behind the future we will all share. In interviews with dozens of scientists we learn about the inventions that will revolutionise our lives and the discoveries that will make it truly possible to explore the last great frontier -- space. As one Nobel Laureate commented on being shown a wood and plastic model of the engine core from a Star Trek: The Next Generation starship: "I'm working on that." From the technicalities of warp speed to real-life replicators to the likelihood of our being able to beam across continents, this always-informative book takes us on a fascinating and eye-opening voyage to the realms of the possible and probable.

# The Science of Interstellar

**W. W. Norton & Company** A journey through the otherworldly science behind Christopher Nolan's award-winning film, Interstellar, from executive producer and Nobel Prize-winning physicist Kip Thorne. Interstellar, from acclaimed filmmaker Christopher Nolan, takes us on a fantastic voyage far beyond our solar system. Yet in The Science of Interstellar, Kip Thorne, the Nobel prize-winning physicist who assisted Nolan on the scientific aspects of Interstellar, shows us that the movie's jaw-dropping events and stunning, never-before-attempted visuals are grounded in real science. Thorne shares his experiences working as the science adviser on the film and then moves on to the science itself. In chapters on wormholes, black holes, interstellar travel, and much more, Thorne's scientific insights—many of them triggered during the actual scripting and shooting of Interstellar—describe the physical laws that govern our universe and the truly astounding phenomena that those laws make possible. Interstellar and all related characters and elements are trademarks of and © Warner Bros. Entertainment Inc. (s14).

## Time Traveler

# A Scientist's Personal Mission to Make Time Travel a Reality

**Basic Books** This is the dramatic and inspirational first-person story of theoretical physicist, Dr. Ronald Mallett, who recently discovered the basic equations for a working time machine that he believes can be used as a transport vehicle to the past. Combining elements of Rocket Boys and Elegant Universe, Time Traveler follows Mallett's discovery of Einstein's work on space-time, his study of Godel's work on a solution of Einstein's equation that might allow for time travel, and his own research in theoretical physics spanning thirty years that culminated in his recent discovery of the effects of circulating laser light and its application to time travel. The foundation for Mallett's historic time-travel work is Einstein's theory of general relativity, a sound platform for any physicist. Through his years of reading and studying Einstein, Mallett became a buff well before he had any notion of the importance of the grand old relativist's theories to his own career. One interesting subtext to the story is Mallett's identification with, and keen interest in, Einstein. Mallett provides easy-to-understand explanations of the famous physicist's seminal work.

# Treknology

## The Science of Star Trek from Tricorders to Warp Drive

**Voyageur Press** Be amazed by 25 iconic pieces of tech from the Star Trek canon and the science behind how they function with Treknology. You will not believe how close we are to achieving some of them today. The name Star Trek conjures images of faster-than-light spacecraft, holographic crew members, and phasers set to stun. Some of these incredible devices may still be far from our reach, but others have made the leap from science fiction to science fact—and now you can learn the science and engineering of what makes them tick. Treknology looks at over twenty-five iconic inventions from the complete history of the Star Trek television and film universe. Author Ethan Siegel explores and profiles these dazzling technologies and their role Star Trek, the science behind how they work, and how close we are to achieving them in the real world today. This stunning collection is packed with 150 superb film and television stills, prop photography, and scientific diagrams to pull you into another world. Brace yourself for a detailed look at the inner workings of Star Trek's computing capabilities, communications equipment, medical devices, and awe-inspiring ships. Treknology is one that no fan of Star Trek, or future tech, will want to miss.

## Quantum Physics of Time Travel

## Relativity, Space Time, Black Holes, Worm Holes, Retro-Causality, Paradoxes

**Cosmology Science Publishers** Table of Contents 1: The Time Machine of Past Present and Future 2: Time Is Relative: Future, Past, Present Overlap and Exist Simultaneously 3: Time Dilation And The Contraction of Space Time 4: Twins, Time Travel, Gravity And Aging 5: Time Travel And Aging: Clocks, Gravity, Altitude, Longitude & Longevity 6: Acceleration, Light Speed, Time Travel, G-Forces And Fuel 7: The Curvature of Space-Time: Gravity and the Bending of Light and Time 8: The Circle of Time: In A Rotating Universe The Future Leads to the Past 9: Time Travel Through Black Holes in the Fabric of Space-Time 10: Microscopic Time Travel At the Speed of

Light 11: "Worm Holes" In Extreme Curvatures of Space Time 12: Worm Holes, Negative Energy, Casimir Force And The Einstein-Rosen Bridge 13: Black Holes And Gravitational Sling Shots 14. The Time Traveler in Miniature: Negative Mass and Energy 15: Tachyons, Negative Energy, The Circle of Time: From the Future to the Past 16. Duality: The Past And Future In Parallel 17: The Mirror of Time: Red Shift, Blue Shifts and Duality 18. Into the Past: Duality, Anti-Matter and Conservation of Energy 19: Quantum Entanglement And Causality: The Future Effects the Past 20: Light, Wave Functions and the Uncertainty Principle: Changing the Future and the Past 21: Paradoxes of Time Travel and the Multiple Worlds of Quantum Physics 22. Epilogue: A Journey Though The Many Worlds of Time 23: References

## THEORY OF TIME TRAVEL

## TIME TRAVEL IN AVENGERS ENDGAME

**BALAMURUGAN JAYAVEL** THIS BOOKS DEFINES WHAT IS TIME IN THE BEGINNING.THEN THE AUTHORS EXPLAINS TIME DILATION, WHAT IS TIME TRAVEL,HOW IT IS POSSIBLE,DIFFICULTIES,TIME PARADOXES,TIME TRAVEL THEORIES IN DETAIL , ETC...2 ND PART OF THIS BOOKS SAYS ABOUT THE CONCEPTS OF TIME TRAVEL IN AVENGERS ENDGAME MOVIE.THEORIES ARE EXPLAINED WITH PICTURES

## The Fabric of the Cosmos

## Space, Time, and the Texture of Reality

**Vintage** From Brian Greene, one of the world's leading physicists and author of the Pulitzer Prize finalist The Elegant Universe, comes a grand tour of the universe that makes us look at reality in a completely different way. Space and time form the very fabric of the cosmos. Yet they remain among the most mysterious of concepts. Is space an entity? Why does time have a direction? Could the universe exist without space and time? Can we travel to the past? Greene has set himself a daunting task: to explain non-intuitive, mathematical concepts like String Theory, the Heisenberg Uncertainty Principle, and Inflationary Cosmology with analogies drawn from common experience. From Newton's unchanging realm in which space and time are absolute, to Einstein's fluid conception of spacetime, to quantum mechanics' entangled arena where vastly distant objects can instantaneously coordinate their behavior,

Greene takes us all, regardless of our scientific backgrounds, on an irresistible and revelatory journey to the new layers of reality that modern physics has discovered lying just beneath the surface of our everyday world.

## The Best Time Travel Stories of the 20th Century

Stories by Arthur C. Clarke, Jack Finney, Joe Haldeman, Ursula K. Le Guin, Larry Niven, Theodore Sturgeon, Connie Willis, and more

**Del Rey** LEAP INTO THE FUTURE, AND SHOOT BACK TO THE PAST H. G. Wells's seminal short story "The Time Machine," published in 1895, provided the springboard for modern science fiction's time travel explosion. Responding to their own fascination with the subject, the greatest visionary writers of the twentieth century penned some of their finest stories. Here are eighteen of the most exciting tales ever told, including "Time's Arrow" In Arthur C. Clarke's classic, two brilliant physicists finally crack the mystery of time travel—with appalling consequences. "Death Ship" Richard Matheson, author of *Somewhere in Time*, unveils a chilling scenario concerning three astronauts who stumble upon the conundrum of past and future. "Yesterday was Monday" If all the world's a stage, Theodore Sturgeon's compelling tale follows the odyssey of an ordinary joe who winds up backstage. "Rainbird" R.A. Lafferty reflects on what might have been in this brainteaser about an inventor so brilliant that he invents himself right out of existence. "Timetipping" What if everyone time-traveled except you? Jack Dann provides some surprising answers in this literary gem. . . . as well as stories by Poul Anderson • L. Sprague de Camp • Joe Haldeman • John Kessel • Nancy Kress • Henry Kuttner • Ursula K. Le Guin • Larry Niven • Charles Sheffield • Robert Silverberg • Connie Willis By turns frightening, puzzling, and fantastic, these stories engage us in situations that may one day break free of the bonds of fantasy . . . to enter the realm of the future: our future. Note: "A Sound of Thunder" by Ray Bradbury and "I'm Scared" by Jack Finney are not included in this edition.

## Arkwright

**Macmillan** Nathan Arkwright is a famous science fiction writer who is convinced that humanity cannot survive on Earth. His Arkwright Foundation dedicates itself to creating a colony in deep space. Fueled by Nathan's legacy, generations of Arkwrights are drawn together, and pulled apart, by the enormity of the task and weight of their name.

## Black Holes and Time Warps

## Einstein's Outrageous Legacy

**W. W. Norton & Company** Examines such phenomena as black holes, wormholes, singularities, gravitational waves, and time machines, exploring the fundamental principles that control the universe.

## Icarus at the Edge of Time

**Knopf** A futuristic reimagining of the classic Greek myth, as a boy ventures through deep space and challenges the awesome power of black holes. The beauty of the book lies in the images, provided by NASA and the Hubble Space telescope, and printed on board rather than paper. On board pages.

## Astronomy Without A Telescope

**Steve Nerlich**

## The New Time Travelers: A Journey to the Frontiers of

# Physics

**W. W. Norton & Company** Draws on decades of work by theoretical physicists, astrophysicists, and philosophers to explore the feasibility of time travel, citing the achievements in relativity science and quantum mechanics by such top names as Kip Thorne, Carl Sagan, and Steven Hawking.

# Time Travel

**The Rosen Publishing Group, Inc** The topic of time travel provides tantalizing conundrums to consider for STEM experts and sci-fi creators alike. Most scientists and mathematicians agree that time travel by humans is probably impossible, yet they have not been able to offer conclusive proof. This book describes how the very nature of time remains a fascinating and complex subject, whether viewed from the perspective of Einstein's relativity or the nanoscale realm of quantum physics. Readers will recognize notable fictional works in literature, film, and television in which time travel serves as a useful plot device as well as a means of examining human history and contemporary social issues.

# Zero Time Space

# How Quantum Tunneling Broke the Light Speed Barrier

**Wiley-VCH** This English edition of a successful, proven title provides a sound scientific background, while allowing a popular presentation of the physics behind the strange and mysterious tunneling process. Based on his groundbreaking experiments, Prof Nimtz places the topic in a broader context by showing connections with other branches of physics. He and the team of authors begin by introducing such fundamental concepts as space and time and continue with tunneling phenomena from optics, nuclear and solid state physics. Avoiding mathematical equations and definitions altogether, they explain step-by-step the prerequisites for the tunnel effect to function, from classical mechanics to quantum mechanics, right up to modern topics, such as wormholes and space travel ? la Star Trek. With a foreword by astronaut Ulrich Walter, science team member of the D-2 Space Shuttle Mission.

# Our Universe

## An Astromer's Guide

**Harvard University Press** Jo Dunkley combines her expertise as an astrophysicist with her talents as a writer and teacher to present an elegant introduction to the structure, history, and enduring mysteries of the universe. Among the cutting-edge phenomena discussed are the accelerating expansion of the universe and the possibility that our universe is only one of many.

## Time-Travel Television

### The Past from the Present, the Future from the Past

**Rowman & Littlefield** Stories of time travel have been part of science fiction since H. G. Wells sent his nameless hero hurtling into Earth's distant future in The Time Machine. Time travel enables the storyteller to depict alternate realities, bring fictional characters face to face with historical figures, and depict moral and ethical dilemmas in which millions of lives (or the world as we know it) are at stake. From Doctor Who and Quantum Leap to the multiple incarnations of Star Trek, time travel has been a staple of science fiction television for more than fifty years. Time-Travel Television: The Past from the Present, the Future from the Past surveys the whole range of time travel stories on the small screen. The essays in this collection explore time travel series both familiar (Babylon 5, Stargate SG-1) and forgotten (The Time Tunnel, Voyagers!), as well as time-travel themed episodes and arcs in series where it is not central, such as Red Dwarf, Lost, and Heroes. Contributors to this volume consider some of the classic themes of time-travel stories: the promise (and peril) of "fixing" the past, the chance to experience (and choose) possible futures, and the potential for small changes to have great effects. Exploring time travel as a teaching tool, as a vehicle for moral lessons, and as a background for high adventure, this book offers new perspectives on many familiar programs and the first serious study of several unjustly neglected ones. Time-Travel Television is essential reading for science fiction scholars and fans, and for anyone interested in the many ways that television brings the fantastic into viewers' living rooms.

# Time Travel

**The Rosen Publishing Group, Inc** The topic of time travel provides tantalizing conundrums to consider for STEM experts and sci-fi creators alike. Most scientists and mathematicians agree that time travel by humans is probably impossible, yet they have not been able to offer conclusive proof. This book describes how the very nature of time remains a fascinating and complex subject, whether viewed from the perspective of Einstein's relativity or the nanoscale realm of quantum physics. Readers will recognize notable fictional works in literature, film, and television in which time travel serves as a useful plot device as well as a means of examining human history and contemporary social issues.

# Time Travel

## Probability and Impossibility

**Oxford University Press, USA** There are various arguments for the metaphysical impossibility of time travel. Is it impossible because objects could then be in two places at once? Or is it impossible because some objects could bring about their own existence? In this book, Nikk Effingham contends that no such argument is sound and that time travel is metaphysically possible. His main focus is on the Grandfather Paradox: the position that time travel is impossible because someone could not go back in time and kill their own grandfather before he met their grandmother. In such a case, Effingham argues that the time traveller would have the ability to do the impossible (so they could kill their grandfather) even though those impossibilities will never come about (so they won't kill their grandfather). He then explores the ramifications of this view, discussing issues in probability and decision theory. The book ends by laying out the dangers of time travel and why, even though no time machines currently exist, we should pay extra special care ensuring that nothing, no matter how small or microscopic, ever travels in time.

# Hyperspace

# A Scientific Odyssey Through Parallel Universes, Time Warps, and the Tenth Dimension

**Oxford University Press** Reissued in new covers, this is the run-away bestseller from one of the world's leading theoretical physicists. Are there other dimensions beyond our own? Is time travel possible? Michio Kaku takes us on a tour of the most exciting work in modern physics, including research into the 10th dimension, time warps, and multiple universes, to outline what may be the leading candidate for the Theory of Everything.

## The Physics of Stargates

# Parallel Universes, Time Travel, and the Enigma of Wormhole Physics

**Eridanus Press** An accessible introduction to modern physics that focuses on wormholes and discusses among other topics their structure, stability, dynamics, operation as time machines, utility as portals to parallel universes, and their implications for the distant future of humanity. Read the wormhole FAQ and the bullet point "principles" scattered throughout to quickly absorb the basics of wormhole physics. Go back and read the interstitial material for greater depth. Written by a physicist with years of experience in gently introducing physics to the mathematically challenged, it also covers the history of wormhole physics and delineates the unsolved problems at the forefront of research.

## Brief Answers to the Big Questions

**Bantam** "Published in the United Kingdom by John Murray (Publishers)"--Copyright page.

# 10 Short Lessons in Time Travel

**Michael O'Mara Books** '10 Short Lessons in Time Travel lucidly sums up the essential parts of this fascinating subject.' John Gribbin  
In Ten Short Lessons in Time Travel, Brian Clegg takes us on a fascinating and up-to-date tour of the workings of the universe that suggest the possibility of journeying back and forth through time. Einstein's special theory of relativity told us that time travel to the future was possible, and later his general theory of relativity showed us that loops in spacetime could exist, meaning that we might be able to bend time backwards, too. But what are the practicalities of making time travel possible? What do we still need to know? How do we deal with paradoxical twists in time - and could quantum physics hold the answer? From the imagination of novelists to current research, 10 Short Lessons in Time Travel is a grand tour of the essential lessons in this game-changing area of physics. About the series: The Pocket Einstein series is a collection of essential pocket-sized guides for anyone looking to understand a little more about some of the most important and fascinating areas of science in the twenty-first century. Broken down into ten simple lessons and written by leading experts in their field, discover the ten most important takeaways from those areas of science you've always wanted to know more about.