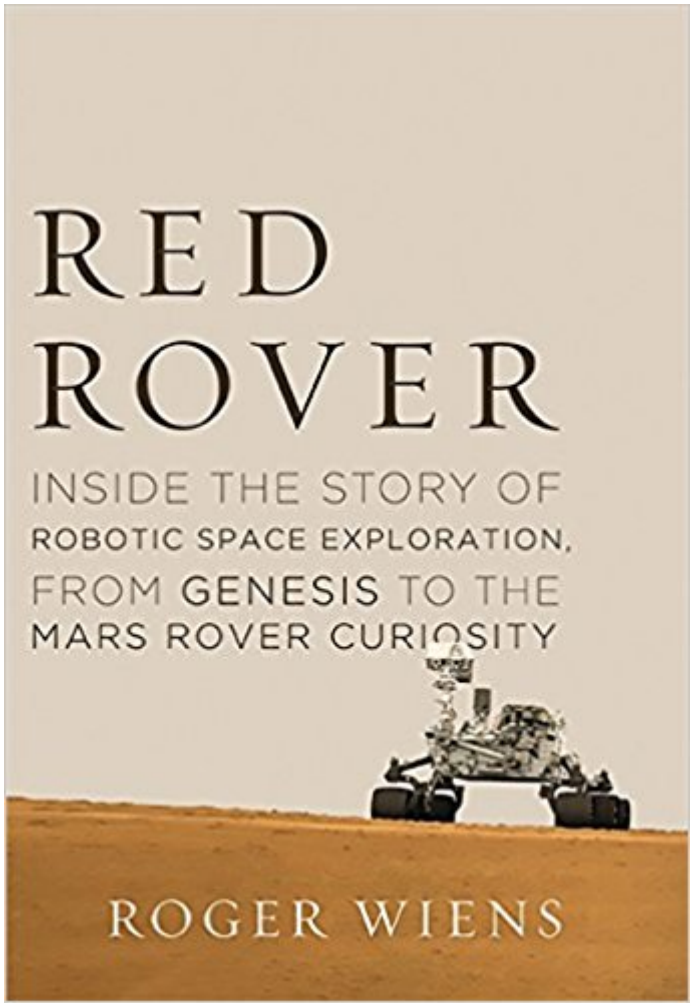
Red Rover: Inside The Story Of Robotic Space Exploration, From Genesis To The Mars Rover Curiosity



Synopsis

In its eerie likeness to Earth, Mars has long captured our imaginationsboth as a destination for humankind and as a possible home to extraterrestrial life. It is our twenty-first century New World; its explorers robots, shipped 350 million miles from Earth to uncover the distant planet s secrets. Its most recent scout is Curiositya one-ton, Jeep-sized nuclear-powered space laboratorywhich is now roving the Martian surface to determine whether the red planet has ever been physically capable of supporting life. In "Red Rover," geochemist Roger Wiens, the principal investigator for the ChemCam laser instrument on the rover and veteran of numerous robotic NASA missions, tells the unlikely story of his involvement in sending sophisticated hardware into space, culminating in the Curiosity rover’s amazing journey to Mars. In so doing, Wiens paints the portrait of one of the most exciting scientific stories of our time: the new era of robotic space exploration. Starting with NASA s introduction of the Discovery Program in 1992, scrappier, more nimble missions became the order of the day, as manned missions were confined to Earth orbit, and behemoth projects went extinct. This strategic shift presented huge scientific opportunities, but tight budgets meant that success depended more than ever on creative engineering and human ingenuity. Beginning with the Genesis mission that launched his career, Wiens describes the competitive, DIY spirit of these robotic enterprises, from conception to construction, from launch to heart-stopping crashes and smooth landings. An inspiring account of the real-life challenges of space exploration, "Red Rover" vividly narrates what goes into answering the question: is there life elsewhere in the universe?"

Book Information

Hardcover: 256 pages
Publisher: Basic Books; 1st edition (March 12, 2013)
Language: English
ISBN-10: 0465055982
ISBN-13: 978-0465055982
Product Dimensions: 6.5 x 0.9 x 9.5 inches
Shipping Weight: 1.2 pounds (View shipping rates and policies)
Average Customer Review: 4.6 out of 5 stars 17 customer reviews
Best Sellers Rank: #726,717 in Books (See Top 100 in Books) #68 inÂ Books > Science & Math > Astronomy & Space Science > Mars #77 inÂ Books > Science & Math > Experiments, Instruments & Measurement > Scientific Instruments #386 inÂ Books > Computers & Technology > Computer Science > Robotics

Customer Reviews

Launched in late November 2011, the Curiosity rover was the most expensive, elaborate robotic device to touch the Martian surface since NASA began sending landers to the Red Planet in 1975 with Viking I. When Curiosity booted up its onboard equipment last August, one of the instruments used to analyze rock and soil samples was the ChemCam, a laser-zapping device built by Los Alamos geochemist Wiens. Here Wiens uses his involvement with this latest Martian venture as a springboard for an engaging history of robotic space exploration from the Genesis project that initiated his career to the unique problems he and his team faced with the one ton, jeep-sized Curiosity. Along with fascinating anecdotes about the bureaucratic challenges and equipment snafus he needed to overcome to get ChemCam loaded onto the rover, Wiens also describes the feats of engineering that produced Genesis in 2004, a probe designed to capture solar wind. A remarkable memoir and testament to the ingenuity of the space programâ ™s many scientists who build the tools needed to explore our solar system. --Carl Hays

Jim Bell, Professor of Planetary Science, Arizona State University, President of the Planetary Society, and author of "Postcards from Mars""Roger Wiens has crafted a delightful and very personal history of planetary exploration that takes us from his boyhood fascination with the Apollo Moon missions to his leading role as a key scientist on the latest Mars rover. His journey from a small prairie town to the laser labs of Los Alamos reminds us that passion, imagination, and perseverance are what propel us to explore the frontiers of space."John L. Phillips, retired NASA astronaut, and former NASA Chair Professor, U.S. Naval Postgraduate School""Red Rover" offers an enticing personal look at the exaltations and disappointments of unmanned space exploration. Roger Wiens vividly portrays the genius and perseverance of the dedicated scientists and engineers who have made robotic exploration of the solar system a reality."Laurie Leshin, Dean, School of Science, Rensselaer Polytechnic Institute"In "Red Rover", Roger Wiens gets you up close and personal with the highs and lows, the triumphs and disappointments that come with pushing the scientific envelope, and the great persistence required to succeed. A great read for anyone interested in the exploration of the frontiers of space."Steve Squyres, Professor of Astronomy, Cornell University, and author of "Roving Mars""We live in a new golden age of exploration, as robotic spacecraft fan out across the solar system, extending the human experience to other planets. With "Red Rover", Roger Wiens provides a delightful, candid, and highly personal insider’s view of this great endeavor."Jim Bell, Professor of Planetary Science, Arizona State University, President of the Planetary Society, and author of "Postcards from Mars""Roger Wiens has crafted a

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Although this book can be slow and robotic (no pun intended... OK, maybe it was intended), this book is incredibly valuable to get an in depth understanding of the complex and political environment scientists and engineers navigate to not only get a mission pushed through, but to be a

part of one of the many teams that compete against each other to be included in these missions. I always knew these missions required brains, but I never knew the level of political jousting, public relations, and project pitching involved. You're left with a deep appreciation for the men and women who work very hard for something their passionate about, but you also feel sorry for them when you see their projects lose funding and die, for what can often seem like silly reasons. But as you learn, that is the nature of the beast.That said, this book is very straight forward, and though not overtly technical, it is a fact by fact, day by day account written like a true engineer would. Don't expect some romanticized deep thought provoking verbiage on space exploration. This book is about how things get done, with a few personal snip-its of personal emotions and thoughts during the process, throw into the mix. Also, keep in mind this book is written from the perspective of one man, and only about the teams he was on. Meaning that you will be reading mostly about his roll on the ChemCam team for Curiosity Rover, and his roll on the Genesis mission. There is some discussion about the missions in general, but it is mostly zeroed in on his team's work. Meaning, you should not expect to get an overall account of Mars rover missions, or even the Curiosity mission, as I expected. That is not to say this books was not intriguing and valuable, because it was. But if you want to read a wider scope about the overall Curiosity mission, or other Mars rover missions, there are plenty of other books that do this. For that reason, I won't be keeping this book, but it was still worth the read.

From begining to the end of the book, recent space history is presented in a impressive and easy to read format. Mars is in reach and present in this remarkable read. You can see the evolution of new ideas the led to the current ChemCam instrument from the previous Genesis probe that captured the early history of the sun. Now we have a SUV size probe Curiosity on Mars making it's own history while revealing the Martion past through geological analysis using the laser ChemCam tools. The author has personalized his experiences in this entire process, from family life to endless hours of designing, testing, and waiting to see if thier project whould be choosen by NASA for a real space flight. Every part of the emotional spectrum is presented and the the human spirit is lifted to literally new heights. Roger Wiens has again reached new heights both on paper and on Mars.

Keeping up with our space program is a hobby of mine, so I was already familiar with the Mars Science Laboratory mission and the rover "Curiosity" when a friend pointed out this book to me. The story of how the mast-mounted Chemcam came to be included on Curiosity's stable of scientific instruments was riveting. I was really impressed with Dr. Weins' commitment and stamina over the years required to conceive, develop and make Chemcam rugged and reliable enough for work on

Mars. Some good luck was involved too; at certain points, his group was about to run out of funds just as a new source became available. My hat goes off to Dr. Weins and to all others who developed the instruments that have made Curiosity the success it is. This is a well-written book that should be read by anyone interested in our space program.

Great book, enjoyed it. Kindle version. Presented a lot of detail, behind the scene, if you will...It has lots of really interesting technical information, including Curiosity's ChemCam, the laser-spectroscope that zaps rocks and reads their composition and others. The book has numerous pictures but on the kindle you can't enlarge them so they are almost useless.too small to be of any value. The endless politics and budget issues at NASA are amazing,

I watched the moon landing while in basic training at Lackland AFB. As a space enthusiast, it was interesting to read about the difficulty of getting a project approved by NASA. Any space mission is the result of hundreds of dedicated scientists who have loved the search for finding out answers about where we come from.Life on earth may have come from Mars and life on Mars may have come from deeper space. That's the best reason why we must go where no man has been before.

Very informative. Well-written. Author has hands-on personal experience with the program. Lot's of interesting historical perspectives. Roger Wiens shares a lifetime of knowledge.

I thought both missions were of interest and it was informative comparing them with each other. Triumphs and failuresof the projects. The failure of the Genesis project, how it came to be and other tid bits worth knowing...

The is an important book about how difficult it is to build an instrument to stand the rigors of Mars and rigors of Washington politics.

Adult) Mars Up Close: Inside the Curiosity Mission Mars Direct: Space Exploration, the Red Planet, and the Human Future Robotic Fish iSplash-MICRO: A 50mm Robotic Fish Generating the Maximum Velocity of Real Fish (High Speed Robotics. Mechanical engneering and kinematics for maximum velocity robot fish. Book 4) Mars: Our New Home? - National Plan to Conquer the Red Planet (Official Strategies of NASA & U.S. Congress): Journey to Mars â " Information, Strategy and ... Act to Authorize the NASA Program To Mars and Beyond, Fast!: How Plasma Propulsion Will Revolutionize Space Exploration (Springer Praxis Books) Mission to Mars: My Vision for Space Exploration Planetary Rovers: Robotic Exploration of the Solar System (Springer Praxis Books) The Curiosity Shoppe Coloring Book: A Magical and Mad Exploration of a Most Amusing and Unexpected Assemblage of Novelties and Oddities Red Sox Fans Are from Mars, Yankees Fans Are from Uranus: Why Red Sox Fans Are Smarter, Funnier, and Better Looking (In Language Even Yankee Fans Can Understand) The Warlord of Mars (John Carter of Mars) The Chessmen of Mars by Edgar Rice Burroughs(Mars Series, Book 5) from Books In Motion.com Thuvia, Maid of Mars by Edgar Rice Burroughs (Mars Series, Book 4) from Books In Motion.com A Princess of Mars (John Carter of Mars) The Gods Of Mars by Edgar Rice Burroughs (Mars Series, Book 2) from Books In Motion.com The Elves of Cintra: Genesis of Shannara (Genesis of Shannara Series)