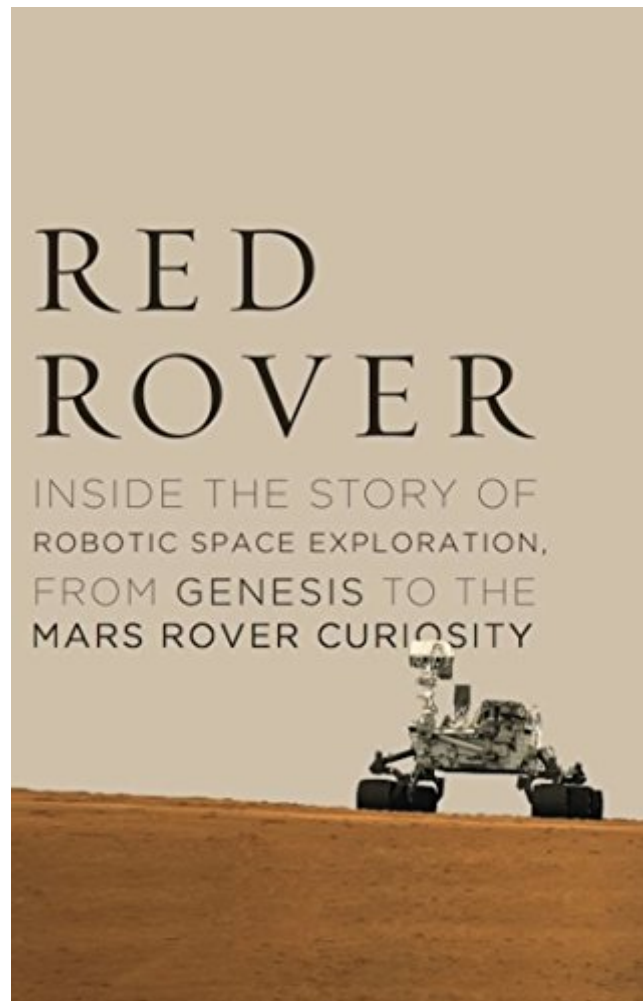


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Red Rover: Inside The Story Of Robotic Space Exploration, From Genesis To The Mars Rover Curiosity



Synopsis

For centuries humankind has fantasized about life on Mars, whether itâ€™s intelligent Martian life invading our planet (immortalized in H.G. Wellsâ€™s *The War of the Worlds*) or humanity colonizing Mars (the late Ray Bradburyâ€™s *The Martian Chronicles*). The Red Planetâ€™s proximity and likeness to Earth make it a magnet for our collective imagination. Yet the question of whether life exists on Mars—or has ever existed there—remains an open one. Science has not caught up to science fiction—at least not yet. This summer we will be one step closer to finding the answer. On August 5th, Curiosity—a one-ton, Mini Cooper-sized nuclear-powered rover—is scheduled to land on Mars, with the primary mission of determining whether the red planet has ever been physically capable of supporting life. In *Getting to Mars*, Roger Wiens, the principal investigator for the ChemCam instrument on the rover—the main tool for measuring Marsâ€™s past habitability—will tell the unlikely story of the development of this payload and rover now blasting towards a planet 354 million miles from Earth. ChemCam (short for Chemistry and Camera) is an instrument onboard the Curiosity designed to vaporize and measure the chemical makeup of Martian rocks. Different elements give off uniquely colored light when zapped with a laser; the light is then read by the instrumentâ€™s spectrometer and identified. The idea is to use ChemCam to detect life-supporting elements such as carbon, nitrogen, and oxygen to evaluate whether conditions on Mars have ever been favorable for microbial life. This is not only an inside story about sending fantastic lasers to Mars, however. Itâ€™s the story of a new era in space exploration. Starting with NASAâ€™s introduction of the Discovery Program in 1992, smaller, scrappier, more nimble missions won out as behemoth manned projects went extinct. This strategic shift presented huge opportunities—but also presented huge risks for shutdown and failure. And as Wiens recounts, his project came close to being closed down on numerous occasions. *Getting to Mars* is the inspiring account of how Wiens and his team overcame incredible challenges—logistical, financial, and political—to successfully launch a rover in an effort to answer the eternal question: is there life on Mars?

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Customer Reviews

From beginning to the end of the book, recent space history is presented in an impressive and easy to read format. Mars is in reach and present in this remarkable read. You can see the evolution of new ideas that 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 its own history while revealing the Martian 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 their project would be chosen by NASA for a real space flight. Every part of the emotional spectrum is presented and the human spirit is lifted to literally new heights. Roger Wiens has again reached new heights both on paper and on Mars.

This book is a frustratingly mixed bag. It has lots of really interesting tech info, including Curiosity's ChemCam, the laser-spectroscopy that zaps rocks and reads their composition. But I was expecting diagrams and other pictorial aids and there are none. All text, with just 4 glossy color pages of publicity shots. And mixed in with the good stuff is the endless politics and budget issues at NASA, maybe interesting to bureaucrats, but quickly tiresome to most readers. That said, stick with it and you will learn fascinating facts about the rovers and other robotic missions that few know.

I never realized that getting these incredible machines to the surface of other worlds required so many twists, turns and just plain luck. I naively thought NASA gathered engineers and scientists into a

room, decided the details of the machine, built it, launched it and the rest became history...boy was I wrong! A wonderful read!!

I love all types of science books. This book however illuminated the practical application of science and gave a behind the scenes look at NASA and space exploration. It is well written and worthy of your time.

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,

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.

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.

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.

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