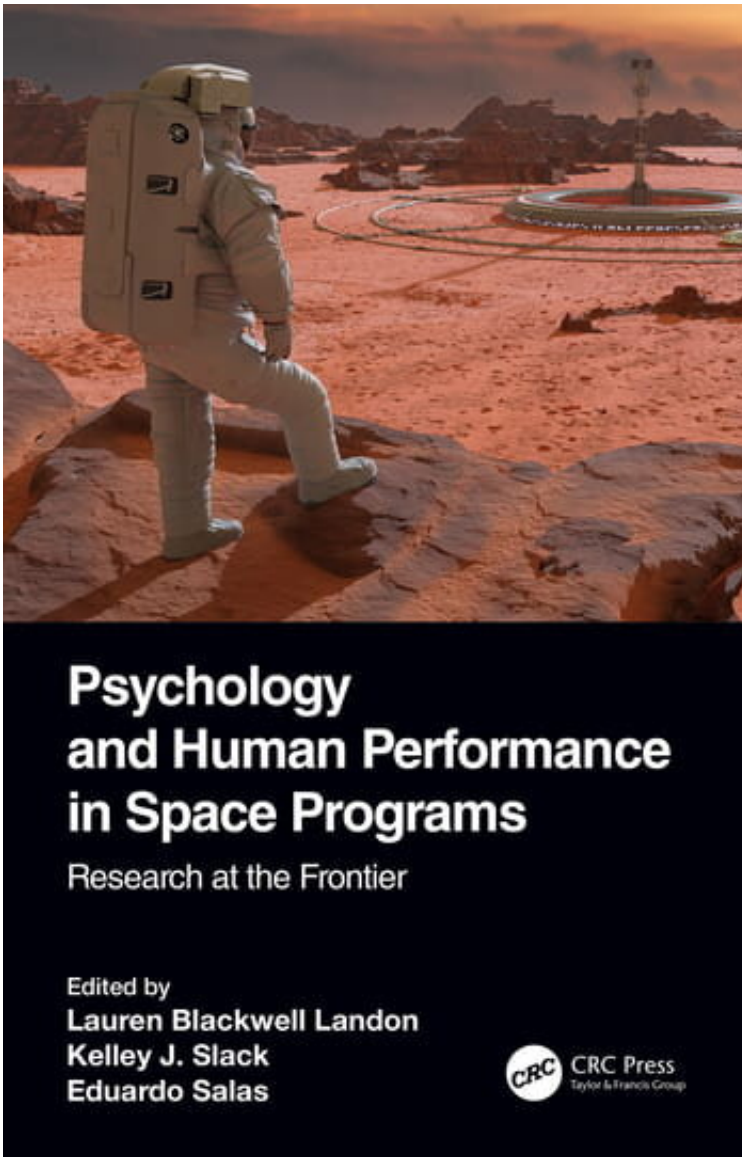


# Books outline what it takes to put astronauts in space

November 17 2020, by Amy McCaig

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Credit: Rice University

A new set of books edited by a Rice University psychologist provides an overview of the research necessary to put astronauts in space, what is needed to keep them safe on future missions and practical applications for space exploration teams.

With chapters written by top [space](#) researchers, the two-volume set examines current practices of leaders in the field both at NASA and in academia. The two books, "[Psychology and Human Performance in Space Programs: Research at the Frontier](#)" and "[Psychology and Human Performance in Space Programs: Extreme Application](#)," were edited by Eduardo Salas, professor and chair of psychological sciences at Rice, Lauren Blackwell Landon from KBRwyle and Kelley Slack from the University of Houston and NASA's Johnson Space Center.

"What we tried to do here is assemble just about all of the scientists and engineers who are trying to understand [human performance](#) issues in space exploration," Salas said. "We've been studying this for a long time, and this book addresses everything from teamwork issues to habitat design to evolving safety issues related to [space exploration](#)."

The first volume examines the lessons that can be learned from various approaches to the extreme environments found in [space missions](#). Using examples from past and current International Space Station missions, it explores the influence of human factors and physical health on individual and team job performance and social interaction. Finally, the book uses the idea of a long-duration Mars mission as a lens through which to study adaptation and resilience, technical and team training, technological advances related to working and living in space, and human interaction with systems on spacecrafts.



Credit: Rice University

The second volume provides both historical and current perspectives on spaceflight operations, with input from experts at NASA and other space agencies around the world. It discusses the selection and hiring of astronauts, the process of training a crew for a mission to Mars, and workload and mission planning.

The [books](#) also include essays from retired astronauts Clay Anderson and Don Pettit on their experiences in space and their thoughts on future missions to the moon and Mars.

Salas said more work is needed to protect humans in space, especially as exploration continues.

"The possibility of a [mission](#) to Mars and exploration of the red planet is just one topic that has generated a whole new set of issues," he said.

"We've got to make use of cutting-edge research and development related to creating, training and supporting astronaut teams who will live and work together on future missions to Mars."

Provided by Rice University

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