

## Recapturing a Future for Space Exploration

Life and Physical Sciences Research for a New Era

Committee for the Decadal Survey on Biological and Physical Sciences in Space

Space Studies Board

Aeronautics and Space Engineering Board

Division on Engineering and Physical Sciences

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# Recapturing A Future For Space Exploration

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**Summary :** Free recapturing a future for space exploration pdf download - more than four decades have passed since a human first set foot on the moon great strides have been made in our understanding of what is required to support an enduring human presence in space as evidenced by progressively more advanced orbiting human outposts culminating in the current international space station iss however of the more than 500 humans who have so far ventured into space most have gone only as far as near-earth orbit and none have traveled beyond the orbit of the moon achieving humans further progress into the solar system had proved far more difficult than imagined in the heady days of the apollo missions but the potential rewards remain substantial during its more than 50-year history nasa s success in human space exploration has depended on the agency s ability to effectively address a wide range of biomedical engineering physical science and related obstacles--an achievement made possible by nasa s strong and productive commitments to life and physical sciences research for human space exploration and by its use of human space exploration infrastructures for scientific discovery the committee for the decadal survey of biological and physical sciences acknowledges the many achievements of nasa which are all the more remarkable given budgetary challenges and changing directions within the agency in the past decade however a consequence of those challenges has been a life and physical sciences research program that was dramatically reduced in both scale and scope with the result that the agency is poorly positioned to take full advantage of the scientific opportunities offered by the now fully equipped and staffed iss laboratory or to effectively pursue the scientific research needed to support the development of advanced human exploration capabilities although its review has left it deeply concerned about the current state of nasa s life and physical sciences research the committee for the decadal survey on biological and physical sciences in space is nevertheless convinced that a focused science and engineering program can achieve successes that will bring the space community the u s public and policymakers

to an understanding that we are ready for the next significant phase of human space exploration the goal of this report is to lay out steps and develop a forward-looking portfolio of research that will provide the basis for recapturing the excitement and value of human spaceflight--thereby enabling the u s space program to deliver on new exploration initiatives that serve the nation excite the public and place the united states again at the forefront of space exploration for the global good

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