Record Nr. UNINA9910484625603321 Autore Ruyters Gunter **Titolo** Breakthroughs in Space Life Science Research [[electronic resource]]: From Apollo 16 to the ISS // by Günter Ruyters, Markus Braun, Katrin Maria Stang Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2021 3-030-74022-6 **ISBN** Edizione [1st ed. 2021.] Descrizione fisica 1 online resource (xvii, 155 pages): illustrations (mostly color) Collana SpringerBriefs in Space Life Sciences, , 2196-5579 Disciplina 571.0919 Soggetti Medicine - Research Biology - Research Cytology Solar system Aerospace engineering **Astronautics** Biomedical Research Cell Biology Space Physics Aerospace Technology and Astronautics Biologia espacial Llibres electrònics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Nota di contenuto Chapter 1. Introduction: Space Life Sciences - Basic Research and Applications under Extraordinary Conditions -- Chapter 2. A Long Way for Europe and Germany: From Apollo 16 to the International Space Station ISS -- Chapter 3. Success Stories: Incremental Progress and Scientific Breakthroughs in Life Science Research -- Chapter 4. Success Stories: Innovative Developments for Biomedical Diagnostics and Preventative Health Care -- Chapter 5. Space Life Sciences in the Exploration Era: An Outlook on Future Challenges and Opportunities .-.

This last volume of the SpringerBriefs in Space Life Sciences series is

Sommario/riassunto

setup in 5 main parts. The 1st part shortly summarizes the history of life science research in space from the late 40s until today with focus on Europe and Germany, followed by a part on describing flight opportunities including the Space Shuttle/Spacelab system and the International Space Station ISS; in the 3rd part it focuses on extraordinary success stories of this constantly challenging research program and highlights some important key findings in space life science research. The book introduces in the 4th part innovative developments in non-invasive biomedical diagnostics and training methods for astronauts that emerge from this program and are of benefit for people on Earth especially in the aging society. Last but not least in its 5th part it closes with an outlook on the future of space life sciences in the upcoming era of space exploration. The book is intended for students and research scientists in the life sciences and biomedicine as well as for interested lay persons, who wish to get an overview of space life science research: its' early days, current status and future directions.