

1. Record Nr.	UNISA996466743103316
Titolo	The search for extraterrestrial intelligence : proceedings of the 2nd SETI-INAF Meeting 2019 // Stelio Montebugnoli, Andrea Melis, Nicolo Antonietti, editors
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-63806-5
Descrizione fisica	1 online resource (147 pages)
Collana	Springer Proceedings in Physics ; ; Volume 260
Disciplina	574.999
Soggetti	Life on other planets Extrasolar planets Interstellar communication
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Foreword -- Preface -- Acknowledgements -- SOC, LOC and Participants -- SOC -- LOC -- Participants -- Contents -- Contributors -- 1 KLT, A New Algorithm For SETI -- 1.1 Properties of the KLT -- 1.2 Algorithm -- 1.2.1 Features -- 1.2.2 Eigenvalue Decomposition -- References -- 2 SETI and Temporal Copernicanism -- 2.1 Introduction -- 2.2 Is Temporal Copernicanism Well-Defined? -- 2.3 SETI and Temporal Copernicanism -- 2.4 Conclusions -- References -- 3 The Newborn European Astrobiology Institute, a Big Opportunity for Outreach and Education -- 3.1 The Context -- 3.1.1 General Features of the European Astrobiology Institute -- 3.2 The Outreach, Media and Corporate Identity WG -- 3.2.1 Corporate Identity -- 3.3 The Education WG and Sci-Fi Project Team -- 3.3.1 Astrobiology Bingo Game -- 3.3.2 Sci-Fi Anthology -- References -- 4 Cherenkov Telescopes for Optical SETI -- 4.1 A Visionary Common Start -- 4.1.1 The Beginning of High-Energy Astrophysics -- 4.1.2 Searching for Interstellar Communications -- 4.2 The Current Situation -- 4.3 A Promising Future -- References -- 5 Organics on the Rocks: A Cosmic Origin for the Seeds of Life -- 5.1 Dust Thou Art -- 5.2 Making Complex Molecules from Simple Interstellar Ices -- 5.3 Is the Origin of Life Linked to Cosmic Chemistry? -- 5.4 Where Do We Go from Here? --

References -- 6 COGITO in Space -- 6.1 Introduction -- 6.2 Conceptual Background of the Project -- 6.3 COGITO in Space in Relation to Previous Interstellar Messages -- 6.4 Code for Interstellar Transmission -- 6.5 Performance at the Dwingeloo Radio Telescope -- 6.6 Conclusions -- References -- 7 SETI Program at the Medicina INAF Radioastronomy Station: Past, Present, Future of PC Based Spectrometers -- 7.1 Introduction -- 7.1.1 PC Based Spectrometers of the 90s at the Medicina Radio Astronomical Station. 7.1.2 PC Hardware Evolution of the 2000s -- 7.1.3 New Design Guidelines for PC Based Spectrometers -- 7.2 The Design of the New Spectrometers -- 7.2.1 NewSpec: The First Approach for a New Spectrometer -- 7.2.2 Spectrometer's Design Final Requirements -- 7.2.3 Spectrometer's Hardware Design -- 7.2.4 Spectrometer's Software Design -- 7.3 The New Spectrometer Line -- 7.3.1 First Pilot Project -- 7.3.2 Second Pilot Project -- 7.3.3 The New Final Spectrometers -- 7.3.4 The First Final Project -- 7.3.5 The Second Final Project -- 7.4 Spectrometers Tests -- 7.4.1 Lab Tests -- 7.4.2 SETI Observation Tests -- 7.4.3 NEO Observation Tests -- 7.5 Conclusions -- 7.6 Possible Future Developments -- References -- 8 Moon Farside Protection, Moon Village and PAC (Protected Antipode Circle) -- 8.1 History -- 8.2 The Year 2018 -- 8.3 The Farside Spectrum Still is Not Polluted (in December 2020) Except in the S, X and UHF Bands -- 8.4 Queqiao and Chang'e 4 Communications Bands Above the Moon Farside -- 8.5 COSMOLOGY: Need for Ultra-Low Frequency Radio Astronomy in Space Within the Quiet Cone Above the Moon Farside, I.E. Just at the Lagrangian Point L2, Where Queqiao Is -- 8.6 SETI (Or "Technosignatures", According to NASA's 2018 "New Jargon") -- 8.7 Past and Present Studies About the Moon Farside Protection -- 8.8 Summary About This author's Work to Legally Protecting Radio Astronomy on the Farside and Within the Quiet Cone in the Space Above the Farside -- 8.9 Conclusions: The Moon Village Should Be Located Outside the PAC and Along the 180 Degrees Meridian, Possibly Close to the South Pole -- References -- 9 Exobiolab: Different Life on Different Planets -- 9.1 Introduction -- 9.2 Background Information -- 9.2.1 Ingredients to Sustain Life -- 9.2.2 Life on Exoplanets -- 9.2.3 Ecological Limit to Life -- 9.2.4 Mass Versus Gravity -- 9.2.5 Gravitropism. 9.2.6 Biosignatures -- 9.3 The ExobioLaboratory -- 9.3.1 F Star-White Bulb -- 9.3.2 G Star-White-Yellow Bulb -- 9.3.3 K Star-Orange Bulb -- 9.3.4 M Star-Red Bulb -- 9.3.5 Plants on Exoplanets -- 9.4 Other Questions -- 9.4.1 The Future of Our Earth: A New Planet -- 9.4.2 Earth's Primordial Atmosphere in Comparison to Other Exoplanets' Atmosphere -- 9.5 Conclusion -- References -- 10 Involvement of the Sardinia Radio Telescope in the Breakthrough Listen Initiatives -- 10.1 Introduction -- 10.2 Enhancement of the SRT for the Study of the Universe at High Radio Frequencies -- 10.3 Involvement of the SRT in the BL program -- 10.4 Conclusion and Future Remarks -- References -- 11 SETI Program at the Medicina INAF Radioastronomy Station: Past, Present, Future -- 11.1 Activities at the Medicina Radiotelescopes -- 11.1.1 Past -- 11.1.2 Present -- 11.1.3 Future -- 11.2 Some Considerations -- 11.3 Conclusion -- References -- 12 Searching for Life on Mars: A Brief Summary -- 12.1 Introduction -- 12.2 The Exploration of Mars -- 12.3 The Search for Life -- References -- 13 Getting Ready for the SKA SETI -- 13.1 A New Strategy for SETI Observation and Data Management -- 13.1.1 SKA Sensitivity for SETI -- 13.1.2 Commensal Observation Strategy and AI Computing -- References -- 14 SETI in Rocky Exoplanets: Narrowing the Search with Climate Models -- 14.1 Introduction -- 14.2 Thermal Limits of

Multicellular Life -- 14.2.1 How Universal Are the Thermal Limits of Terrestrial Life? -- 14.3 Modelling the Surface Temperature of Rocky Exoplanets -- 14.3.1 A Temperature-Dependent Index of Complex-Life Habitability -- 14.3.2 Applications to Studies of Habitability for Complex Life -- 14.4 Conclusions -- References.
