

Cyril Grima, Ph. D.

Assistant Research Professor

—
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Interests

Surface Processes • Cryosphere • Mars • Europa • Moon • Titan • Antarctica • Arctic • Ionosphere
• Radar reflectometry • Radar sounding

Education

2007-2011	PhD	Planetary Science	Université Grenoble Alpes, FR
2006-2007	M2R (~MS)	Solid Earth Geophysics	Université Grenoble Alpes, FR
2005-2006	M2P (~MS)	Space Technologies	Université Toulouse III, FR
2004-2005	M1 (~BS)	Engineering Physics	Université Grenoble Alpes, FR
2003-2004	L3 (~BS-1)	Physics, Minor: Astrophysics	Université de Versailles, FR
1999-2001	DUT (~AD)	Mechanical Engineering	Université d'Angoulême, FR

Employment

2015-now	Research Associate/Assistant Research Professor	UTIG, Austin, TX, USA <i>Investigation of Earth and planetary cryospheres with radar sounders</i>
2011-2015	Postdoctoral Fellow	UTIG, Austin, TX, USA <i>Development of a radar technique for planetary surface assessment • Science definition team member for the exploration of Europa • Polar aerogeophysical campaigns in the Antarctic/Arctic • Supervisor: Don D. Blankenship</i>
2007-2011	Graduate Student	IPAG, Grenoble, FR <i>Derivation of the purity rate for the Martian north polar cap • Formation hypothesis of Martian ice scarps unknown on Earth • Global mapping of the Mars radar surface reflectivity • Shallow Radar (MRO/SHARAD) data • Supervisor: Wlodek Kofman</i>
2006 (6 m.)	Research Fellow	IRF, Kiruna, Sweden <i>Study of Kelvin-Helmholtz instabilities at the martian ionopause • ASPERA-3 spectro-analyser data set (MarsExpress) • Supervisor: Herbert Gunell</i>

- 2005 (2 m.) **Research Assistant** [ISTerre, Grenoble, FR](#)
Crustal thickness of the western Alps by seismic receiver functions • Field work on a seismologic station network • Supervisor: Anne Paul
- 2004 (1 m.) **Research Assistant** [LATMOS, Verrières, FR](#)
Assistance in the development of an extrasolar planet detection method • Supervisor: Alain Sarkissian
- 2003 **Mechanical Designer** [2MI, Montluçon, FR](#)
Design of Isostatic and foundry equipments for the car industry

Field Experience

- 2014 (1 m.) **Assistant Operator** [Qaanaaq, Greenland](#)
Data acquisition/analysis for airborne geophysical surveys
- 2012 (2 m.) **Assistant Operator** [East Antarctica](#)
Data acquisition/analysis for airborne geophysical surveys
- 2012 (1 m.) **Assistant Operator** [Qaanaaq, Greenland](#)
Data acquisition/analysis for airborne geophysical surveys
- 2011 (2 m.) **Assistant Operator** [East Antarctica](#)
Data acquisition/analysis for airborne geophysical surveys

Mission Experience

- 2022 **International Mars Ice Mapper (I-MIM)** [NASA, ASI, CSA, JAXA](#)
 Member of the *Reconnaissance/Science Measurement Definition Team*
- 2015–now **Europa Clipper** [NASA](#)
 Co-I for *Radar for Europa Assessment and Sounding: Ocean to Near-surface (REASON)*
 Co-Chair for the *Reconnaissance Focus Group*
 Member of the *JUICE/Clipper Science Steering Committee*
 Coordinator of the *Reflectometry Measurement Implementation Group (REASON)*
 Coordinator of the *Plasma Measurement Implementation Group (REASON)*
- 2015–2017 **Cassini Spacecraft** [NASA](#)
 Associate Team Member for the *Cassini RADAR*
- 2014–now **Jupiter Icy Moons Explorer (JUICE)** [ESA](#)
 US Collaborator to the *Radar for Icy Moon Exploration (RIME)*
 Member of the *JUICE/Clipper Science Steering Committee*
- 2007–now **Mars Reconnaissance Orbiter (MRO)** [NASA](#)
 Collaborator to the *Shallow Radar (SHARAD)*
- 2007–2011 **Mars Express** [ESA](#)

Collaborator to the *Mars Adv. Radar for Subsurface and Ionosphere Sounding (MARSIS)*
Co-author of the *MARSIS total Electron Content of the Ionosphere Derived Data Product*

Honors & Awards

- 2024 **Awardee** • NASA Honor Group Award • For exceptional Multidisciplinary Science Assessments for the International Mars Ice Mapper Mission Concept that Strongly Advance NASA Moon-to-Mars Objectives
- 2024 **Awardee** • Top 10% of the most downloaded papers in 2022 for [The Basal Detectability of an ice-covered Mars by MARSIS](#) • Wiley/American Geophysical Union
- 2021 **Awardee** • Director's Circle of Excellence • UTIG, Austin, TX
- 2017 **Awardee** • Outstanding Young Researcher • UTIG, Austin, TX
- 2013 **Awardee** • Outstanding contribution to Mars Express • European Space Agency
- 2012 **Nominee** • PhD Thesis Award (22 nominees out of ~900) • Grenoble University
- 2011 **Awardee** • Postdoctoral Fellowship • UTIG, Austin, TX

Invitations

- 2024 **Invited Speaker** • The Properties of Planetary Surfaces from Radar Sounders • Texas Geophysical Society, University of Texas at Austin, USA
- 2023 **Invited Speaker** • Icy Moon Exploration: Bridging the Cryosphere and Icy Moon Communities • EGU General Assembly 2023, Vienna, Austria
- 2022 **Invited Speaker** • Reconnaissance Focus Group • NASA Europa Clipper Science Team
- 2022 **Invited Speaker** • Geology Foundation Advisory Council Meeting • Jackson School of Geosciences, UT Austin, TX
- 2022 **Invited Panelist** • Europa Lander Speaker Series • JPL/Caltech, online.
- 2021 **Invited Speaker** • "Brines Across the Solar System: Modern brines" conference, LPI • Houston, TX
- 2021 **Invited Co-Organizer** • "Brines Across the Solar System: Modern brines" conference, LPI • Houston, TX
- 2020 **Invited Speaker** • National Oceanography Center • Liverpool, UK
- 2020 **Invited Speaker** • Center for Planetary Systems Habitability • UT Austin, TX
- 2019 **Invited Member** • Reviewer board • Remote Sensing (ISSN 2072-4292)
- 2019 **Invited Speaker** • Five Decades of Radioglaciology • International Glaciology Society
- 2019 **Invited Speaker** • Colloquium of the Department of Astronomy • UT Austin, TX
- 2018 **Invited Speaker** • Planetary Habitability Pop-Up Institute • UT Austin, TX
- 2018 **Invited Speaker** • International Geoscience and Remote Sensing Symposium • Spain, Valencia • (Declined due to conflict)
- 2016 **Invited Panelist** • Where Is Earth 2.0? • SXSW, Austin, TX
- 2012 **Invited Speaker** • Laboratoire d'Etudes en Géophysique et Océanographie Spatiales • Toulouse, France
- 2012 **Invited Speaker** • Institut de Planétologie et d'Astrophysique • Grenoble, France

Funding History

2023–26	Principal Investigator • Diagnosing Sub-Ice Ocean Processes with Basal Radar Reflectometry: An Analogue for Icy Ocean Worlds • NASA • \$950K
2023–24	Principal Investigator • What are the Radar Bright Terrains on Mars? • NASA • \$195K
2023	Co-Principal Investigator • First Absolute Calibration of Surface Radio Reflectivity with Lunar In-situ Measurements • UTIG Blue Sky Research Incentive • 1 summer of student funding (\$15K)
2022–25	Co-Investigator • Integrated Measurements and Analysis of Geophysics of Schrodinger (IMAGES) • NASA • \$400K
2021–24	Co-Chair • Europa Clipper Reconnaissance Focus Group • NASA • \$80K
2021	Co-Principal Investigator • Modeling firn densification due to melting, percolation & refreezing • UTIG Blue Sky Student Fellowship • 1 year of student funding (\$60K).
2020–24	Co-Investigator • Exploration of Saline Cryospheric Habitats with Europa Relevance (ESCHER): An approach using airborne and submarine semiautonomous systems • NASA • \$3.7M
2019–23	Principal Investigator • Deciphering the Martian Surface and Near-Surface with Radar statistics • NASA • \$466K
2016–18	Co-Investigator • Joint Radar and Model Investigations of Greenland Basal Water Conditions • NASA • \$701K
2016–18	Co-Investigator • East Antarctic Grounding Line Experiment (EAGLE) • NSF • \$724K
2015–30	Co-Investigator • Radar for Europa Assessment and Sounding: Ocean to Near-surface (REASON) • NASA • \$150M
2015	Principal Investigator • Radar Statistical Reconnaissance of the Martian surface in support of the InSight landing site selection • SWRI • \$15K
2014–17	Co-Principal Investigator • Surface Statistical Reconnaissance on Titan: Preliminary Assessments with the Cassini Radar • JPL • \$100K
2013–33	Participant • Jupiter Icy Moon Explorer (JUICE) Radar for Icy Moon Exploration (RIME) • ESA • \$420K
2013–14	Co-Investigator • Ice Penetrating Radar for Planetary Exploration • JPL • \$500K
2013	Co-Principal Investigator • Radar Surface Statistical Reconnaissance of Mars for Landing Site and Geological Characterization of Planetary Bodies • JSG seed Grant • \$15K
2011–13	Fellow • Postdoctoral Fellowship • UTIG, Austin, TX • \$180K
2007–09	Co-Principal Investigator • Mars Express MARSIS Level 5 Total Electron Content (TEC) derived data • ESA • \$60K
2006	Grantee • Mobility grant • French Department of Charente-Maritime • 950 €
2006	Grantee • Mobility grant • French Ministry of Education • 2334 €
2006	Grantee • Mobility grant • French Regional Council of Midi-Pyrénées • 1800 €

Professional Service

2023–now	Member • Recurring Evaluation Panel • NASA SMD
2023	Chair • Annual Performance Evaluation Committee • UTIG
2022–now	Member • JUICE/Clipper Science Steering Committee • ESA/NASA
2022	Member • Postdoctoral Fellowship Committee • JSG
2022	Member • Research Staff Committee Search • UTIG
2021–2022	Chair • Graduate Fellowship Committee • UTIG
2021–now	Co-Chair • Landing Site Reconnaissance Focus Group • NASA's Europa Clipper Science Team
2021–2022	Member • Annual Performance Evaluation Committee • UTIG
2020–2022	Member • Postdoctoral Fellowship Committee • UTIG
2020–now	Editorial Board Member • "Remote Sensing" peer-reviewed academic journal (2018 impact factor: 4.118)
2020–now	Guest Lecturer • Planetary Geology and Geophysics • GEO 366P, UT Austin
2019–now	Guest Lecturer • Geophysics Colloquium • GEO 114G, UT Austin
2015–now	Coordinator • Reflectometry Measurement Implementation Group • REASON Team
2015–now	Coordinator • Plasma Measurement Implementation Group • REASON Team
2015–2023	Co-Conveneer • Radar Investigations of Planetary Surfaces and Subsurfaces • AGU Fall Meeting
2021	Member [Invited] • Science Organization Committee for the "Brines Across the Solar System: Modern brines" conference • LPI, Houston, TX
2019–2021	Member • Fellowship Committee • UTIG
2019–2020	Member • Earth Science & Space Mission Research Interest Group (RIG) • UT Office of the Vice President for Research
2020	Co-Organizer • "LPSC at UT" video conference, in reaction to LPSC cancellation due to COVID-19 • UT Austin
2020	Organizing Committee Member • Science from Space Symposium • UT Austin [Canceled due to COVID-19]
2017–18	Member • Technical Staff Evaluation Committee • UTIG
2017	Member • Laura Lindzey Examining Committee • UT Austin
2016	Guest Lecturer • Icy worlds in the solar system • UT Austin

Journal Reviewer

Advances in Space Research • Annals of Glaciology • The Cryosphere • Earth and Planetary Science Letters • Geophysical Research Letters • Journal of the Geological Society of London • Journal of Geophysical Research • IEEE Geoscience and Remote Sensing Letters • IEEE Transactions on Geoscience and Remote Sensing • Icarus • Nature • Nature Astronomy • The Planetary Science Journal • Remote Sensing • Radio Science

Proposal Reviewer

NASA Solar System Workings • NASA Maturation of Instruments for Solar System Exploration program • NASA Future Investigators in NASA Earth and Space Science and Technology program • NASA CubeSat Launch Initiative • University of Missouri Research Board Grant • UK Space Agency's Mars Exploration Science

Community Software Development/Maintenance ([GitHub](#))

- **Radar Statistical Reconnaissance (rsr) python package** • Tools for statistical radiometry analysis • Available on [GitHub](#) and [PyPI](#)
- **I-Librarian Docker container** • Provides easy containerization for the deployment of [I, Librarian](#), a free and open source web application to build a science library • Available on [GitHub](#) and [DockerHub](#) • >500K Pulls

Mentorship

Post-Doctoral Collaborators

2021-now	Christopher Gerekos
2018-21	Kirk Scanlan
2018-19	Gregor Steinbrugge
2016-19	Inka Koch

Graduate Students

2023-now	Medha Prakash	[PhD]	(Co-supervisor)
2020-22	Russell C. Miller	[MS]	(Co-supervisor)
2020-now	Mohammad Afzad Shadab	[PhD]	(Committee Member)
2017-now	Kristian Chan	[PhD]	(Co-supervisor)
2016-21	Wei Wei	[PhD]	(Committee Member)
2018	Eric Ivan Petersen	[PhD]	(Committee Member)
2018	Dan Lalich	[PhD]	(Committee Member)
2014-18	Anja Rutishauser	[PhD, Canada]	(Informal Mentoring)

Undergraduate Students

2023-now	Mercedes T. Jordan
2020	Larisa Liberty
2013-16	Erika Lopez Garcia
2010	Adrien Tavernier
2010	Solmaz Adéli
2009-10	Aurélien Stolzenbach
2008	Anthony Servain

High-School Students

2020-22	Miguel Lui-Schiaffini
2020-21	Sam Christian
2012-14	Arami Rosales
2012-13	Cassidy Cura
2012-13	Blake Karwoski
2012-13	Elena Arnold

Outreach

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| 2022 | Classroom Talk • Avon Middle School, CT. |
| 2018 | Talk at the Geology Club • Texas State University, San Marcos, TX |
| 2017 | Classroom Talk • Austin International School (AIS), TX |
| 2016 | Speaker for Where Is Earth 2.0? Discovering a Planet Like Ours • SXSW, Austin, Tx |

Press Releases

- 2024 **Is There Life on Europa?** • [JSG](#)
- 2023 **New Radar Technique Lets Scientists Probe Invisible Ice Sheet Region on Earth and Icy Worlds** • inc. [JSG/UTIG](#), [Kxan](#)
- 2022 **Hope for Present-Day Martian Groundwater Dries Up** • inc. [UT](#), [The Times](#), [New Scientist](#), [Popular Science](#), [Universe Today](#), [ScienceAlert](#), [Eos](#), [SyFy](#)
- 2017 **Calm Lakes on Titan Could Mean Smooth Landing for Future Space Probes** • inc. [UT](#), [NBC](#), [Space.com](#)
- 2015 **Radar Instrument Selection for the Europa Mission** • inc. [The Guardian](#), [Ars Technica](#)
- 2009 **Ice Purity of the Northern Martian Polar Cap** • inc. [Agence France Press](#), [France Bleu](#)

Refereed Publications ([Metrics](#))

(♣ Mentored Student, ♠ Postdoc Collaborator)

In Review

- ♣ M. A. Shadab, **C. Grima**, A. Rutishauser, M. A. Hesse, (submitted), A unified kinematic wave theory for melt infiltration into firn, [Journal of Glaciology](#).
- **C. Grima**, W. Kofman, A. Hérique, P. Beck, (submitted), Revising the Basal Permittivity of the South Polar Layered Deposits of Mars with a Surficial Dust Cover, [Geophysical Research Letters](#).
- N. S. Wolfenbarger et al. (inc. **C. Grima**), (submitted), The Potential for Salt Layers in Europa's Ice Shell as Radar-Detectable Structure, [Geophysical Research Letters](#).
- ♣ M. A. Shadab, S. Adhikari, A. Rutishauser, **C. Grima**, M. A. Hesse, (submitted), Melt supply variability controls the formation of ice layers in Greenland firn, [Proceedings of the National Academy of Sciences](#).
- C. B. Phillips et al., (inc. **C. Grima**), (submitted), A Reconnaissance Strategy for Landing on Europa, based on Europa Clipper Data, [The Planetary Science Journal](#).
- T. M. Becker et al. (inc. **C. Grima**), (submitted), Exploring the Composition of Europa with the upcoming Europa Clipper mission, [Space Science Reviews](#).

Published

40. D. D. Blankenship et al. (inc. **C. Grima**), (2024), Radar for Europa Assessment and Sounding: Ocean to Near-surface (REASON), [Space Science Reviews](#), in press.
39. I. J. Daubar et al., (inc. **Grima C.**), (2024), [Planned Geological Investigations of the Europa Clipper Mission](#), [Space Science Reviews](#) 220(18).
38. ♣ R. C. Miller, **C. Grima**, Gulick S. P. S., Goudge T. A., Russell A., Perry M., Putzig N., Campbell B., (2023), [Dynamic Development of the Athabasca Valles Outflow System from Volcanic Facies and 15-m Scale Roughness](#), [Icarus](#), 115691.

37. ♣ K. Chan, **C. Grima**, A. Rutishauser, D. A. Young, R. Culberg, and D. D. Blankenship, (2023), [Spatial characterization of near-surface structure and meltwater runoff conditions across Devon Ice Cap from dual-frequency radar reflectivity](#), The Cryosphere, tc-2022-181.
36. **Grima C.**, N. E. Putzig, B. A. Campbell, M. Perry, S. P. S. Gulick, R. C. Miller, A. T. Russell, K. M. Scanlan, G. Steinbrügge, D. A. Young, S. D. Kempf, G. Ng, D. Buhl, and D. D. Blankenship, (2022), [Investigating the Martian Surface at Decametric Scale: Population, Distribution and Dimension of Heterogeneities from Radar Statistics](#), The Planetary Science Journal 3(10), p236.
35. ♣ M. Liu-Schiaffini, G. Ng, **C. Grima** and D. Young, (2022), [Ice Thickness from Deep Learning and Conditional Random Fields: Application to Ice Penetrating Radar Data with Radiometric Validation](#), IEEE Transactions on Geoscience and Remote Sensing, in press.
34. **Grima C.**, J. Mouginot, W. Kofman, A. Hérique and P. Beck, (2022), [The Basal Detectability of an ice-covered Mars by MARSIS](#), Geophysical Research Letters 49(2), e2021GL096518.
33. G. Steinbrugge, M. S. Haynes, D. M. Schroeder, K. M. Scanlan, A. Stark, D. A. Young, **C. Grima**, S. Kempf, G. Ng, D. Buhl, J. R.C. Voigt, T. Roatsch, and D. D. Blankenship, (2022), [Altimetry Measurements from Planetary Radar Sounders and Application to SHARAD on Mars](#), IEEE Transactions on Geoscience and Remote Sensing, vol. 60, pp. 1-14, 2022, Art no. 5109214.
32. ♠ K. M. Scanlan, D. A. Young, G. Steinbrügge, S. D. Kempf, **C. Grima**, and D. D. Blankenship, (2021), [Delay Doppler SAR Focusing and Quantitative Quality Control of Future REASON Data](#), IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 14, 4352-69.
31. ♠ C. Gerekos, **C. Grima**, G. Steinbrugge, S. Thakur, K. M. Scanlan, D. A. Young, L. Bruzzone, D. D. Blankenship, (2021), [Martian roughness analogues of European terrains and implications on radar backscatter](#), Icarus 358, 114197.
30. G. Steinbrugge, R.C. Voigt, D. Schroeder, A. Stark, M. Haynes, K. Scanlan, C. Hamilton, D. A. Young, H. Hussmann, **C. Grima**, D. D. Blankenship, (2020), [The Surface Roughness of Europa derived from Galileo Stereo Images](#), Icarus 343(113669).
29. Lopes R. M. C. et al. (inc. **Grima C.**), (2019), [Titan as Revealed by the Cassini Radar](#), Space Science Reviews 215(4), article #33, 50 pp.
28. ♠ L. M. Scanlan, **C. Grima**, G. Steinbrugge, S. D., Kempf, D. A. Young, D. D. Blankenship, (2019), [Geometric Determination of Ionospheric Total Electron Content from Dual Frequency Radar Sounding Measurements](#), Planetary and Space Science 178(104696).
27. **Grima C.**, I. Koch, J. S. Greenbaum, K. M. Soderlund, D. D., Blankenship, D. A. Young, D. M. Schroeder, S. Fitzsimons, (2019), [Surface and Basal Boundary Conditions at the Southern McMurdo and Ross Ice Shelves, Antarctica](#), Journal of Glaciology 65(252), 675-688.

26. A. Rutishauser, D.D. Blankenship, M. Sharp, M. L. Skidmore, J. S. Greenbaum, **C. Grima**, D. M. Schroeder, J. A. Dowdeswell and D. A. Young, (2018), [Discovery of a hypersaline subglacial lake complex beneath Devon Ice Cap, Canadian Arctic](#), Science Advances 4(4), eaar4353.
25. G. Steinbrugge, D.M. Schroeder, M.S. Haynes, H. Hussmann, **C. Grima**, D.D. Blankenship, (2018), [Assessing the potential for measuring Europa's tidal Love number h2 using radar sounder and topographic imager data](#), Earth and Planetary Science Letters, Volume 482, 334-341.
24. Castelletti D., D. M. Schroeder, S. Hensley, **C. Grima**, G. Ng, D. Young, Y. Gim, L. Bruzzone, A. Moussessian and D. D. Blankenship (2017). [An Interferometric Approach to Cross-Track Clutter Detection in Two Channel VHF Radar Sounders](#), IEEE Transactions on Geoscience and Remote Sensing 55(11), 6128 - 6140.
23. **Grima C.**, M. Mastrogiuseppe, A. G. Hayes, S. D. Wall, R. D. Lorenz, J. D. Gardner, B. Stiles, C. Elachi, (2017), [Surface Roughness of Titan's Hydrocarbon Seas](#), Earth and Planetary Science Letters 474, 20-24.
22. ♣ A. Rutishauser, **C. Grima**, M. Sharp, D. Blankenship, D. Young, F. Cawkwell, J. Dowdeswell, (2016), [Characterizing near-surface firn using the scattered signal component of the glacier surface return from airborne radio-echo sounding](#), Geophysical Research Letters 43(24), pp. 12,502-510.
21. Golombek M. et al. (inc. **C. Grima**), 2016, [Selection of the InSight Landing Site](#), Space Science Reviews 211(1–4), pp 5–95.
20. Putzig N. E., G. A. Morgan, B. A. Campbell, **C. Grima**, I. B. Smith, R. J. Phillips, M. P. Golombek, (2016), [Radar derived Properties of the InSight Landing Site in Western Elysium Planitia on Mars](#), Space Science Reviews 211(1–4), pp 135–146.
19. Schroeder D., B. Campbell, L. Bruzzone, A. Romero-Wolf, D. Blankenship, **C. Grima**, W. Kofman, L. Carrer, (2016), [Assessing the potential for passive radio sounding of Europa and Ganymede with RIME and REASON](#), Planetary and Space Science 134, 52-60.
18. Poggiali V., M. Mastrogiuseppe, A. Hayes, R. Seu, S. Birch, R. Lorenz, **C. Grima**, J. Kargel, J. Hofgartner, (2016), [Liquid Filled Canyons on Titan](#), Geophysical Research Letters 43(15), 7887-7894.
17. **Grima C.**, J. S. Greenbaum, *E. Lopez Garcia, K. M. Soderlund, *A. Rosales, D. D. Blankenship, D. A. Young, (2016), [Radar detection of the brine extent at McMurdo Ice Shelf, Antarctica, and its control by snow accumulation](#), Geophysical Research Letters 43(13), 7011-7018.
16. Vance T., J. Roberts, A. Moy, M. Curran, C. Tozer, A. Gallant, N. Abram, T. van ommen, D. Young, **C. Grima**, D. Blankenship, M. Siegert, (2016), [Optimal site selection for a high resolution ice core](#), Clim. Past 12, 595-610.
15. **Grima C.**, D. D. Blankenship, D. M. Schroeder. (2015), [Radar Signal Propagation Through the Ionosphere of Europa](#), Planetary and Space Science 117, 421-428.

14. Schroeder D. M., **C. Grima**, D. D. Blankenship. (2015), *Evidence for Variable Grounding Zone Extent and Shear Margin Bed Conditions Across Thwaites Glacier, West Antarctica*. Geophysics, vol.81, NO 1.
13. Sánchez-Cano B., D.D. Morgan, O. Witasse, S.M. Radicella, M. Herraiz, R. Orosei, M. Cartacci, A. Cicchetti, R. Noschese, W. Kofman, **C. Grima**, J. Mouginot, D.A. Gurnett, M. Lester, P.-L. Blelly, H. Opgenoorth and G. Quinsac, (2015), *Total Electron Content in the martian atmosphere: a critical assessment of the Mars Express MARSIS datasets*, Journal of Geophysical Research: Space Physics 120(3), 2166-2182.
12. **Grima, C.**, Blankenship, D. D., Young, D. A., and Schroeder, D. M.(2014), *Surface slope control on firn density at Thwaites Glacier, West Antarctica: Results from airborne radar sounding*. Geophysical Research Letters 41(19), 6787-6794.
11. **Grima, C.**, Schroeder, D. M., Blankenship, D. D., and Young, D. A., (2014), *Planetary landing zone reconnaissance using ice penetrating radar data: concept validation in Antarctica*. Planetary and Space Science 103, 191-204.
10. Schroeder, D. M, Blankenship, D. D., Raney, K. R., **Grima, C.**, (2014), *Estimating subglacial water geometry using radar bed echo specularity: application to Thwaites Glacier, Antarctica*. IEEE Geoscience and Remote Sensing Letter 12(3), 443-447.
9. **Grima, C.**, (2014), *Comments on 'An inversion of Planetary Rough Surface Permittivity From Radar Sounder Observations'*. IEEE Antenna and Wireless Propagation Letter, 13(1), pp. 1-2.
8. Lasue, J., Mangold, N., Hauber, E., Clifford, S., Feldman, W., Gasnault, O., **Grima, C.**, Maurice S., Mosis O., (2013), *Quantitative assessments of the martian hydrosphere*. Space Science Reviews, Volume 174, Issue 1-4, 155-212.
7. **Grima, C.**, Kofman, W., Herique, A., Orosei, R., and Seu, R., (2012), *Quantitative analysis of Mars surface radar reflectivity at 20 MHz*. Icarus, 220, 84-99.
6. **Grima, C.**, Costard, F., Kofman, W., Saint-Bézar, B., Servain, A., Rémy, F., Mouginot, J., et al., (2011), *Large asymmetric polar scarps on Planum Australe, Mars: Characterization and evolution*. Icarus, 212(1), 96-109.
5. Mouginot, J., Pommerol, a., Kofman, W., Beck, P., Schmitt, B., Hérique, A., **Grima, C.**, et al., (2010), *The 3-5MHz global reflectivity map of Mars by MARSIS/Mars Express: Implications for the current inventory of subsurface H₂O*. Icarus, 210(2), 612-625.
4. Pommerol, A., Kofman, W., Audouard, J., **Grima, C.**, Beck, P., Mouginot, J., Hérique, A., et al., (2010), *Detectability of subsurface interfaces in lunar maria by the LRS/SELENE sounding radar: Influence of mineralogical composition*. Geophysical Research Letters, 37(3), 1-5.
3. **Grima, C.**, Kofman, W., Mouginot, J., Phillips, R. J., Hérique, A., Biccari, D., Seu, R., et al. (2009), *North polar deposits of Mars: Extreme purity of the water ice*. Geophysical Research Letters, 36(3), 2-5.

2. Mouginot, J., Kofman, W., Safaeinili, A., **Grima, C.**, Hérique, A., and Plaut, J. J. (2009), [MARSIS surface reflectivity of the south residual cap of Mars](#). *Icarus*, 201(2), 454-459.
1. Gunell, H., Amerstorfer, U. V, Nilsson, H., **Grima, C.**, Koepke, M., Fränz, M., Winningham, J. D., et al. (2008) [Shear driven waves in the induced magnetosphere of Mars](#). *Plasma Physics and Controlled Fusion*, 50(7), 074018.

Academic and Technical Reports

12. **Grima C.**, Y. Okumura, D. Blankenship, L. Lavier, (2024), *Committee for Disability & Access (D&A) Equipment and Accommodation.*, UTIG Retreat White Paper.
11. I-MIM MDT (inc. **Grima C.**) (2022) [Final Report of the International Mars Ice Mapper Reconnaissance/Science Measurement Definition Team](#). 239 pp., ASI/CSA/JAXA/NASA/NSO.
10. Gerekos C, **Grima C.**. (2022), *On IEM and Fractal Backscattering Laws for REASON Measurement Quality Verification and Validation*, Jet Propulsion Laboratory Interoffice Memorandum, IOM-REASON-2022-003.
9. Young D. A., N. Wolfenbarger, T. Richter, **C. Grima** and K. Soderlund, (2019), *Science Verification and Validation Point Models for REASON*, Jet Propulsion Laboratory Interoffice Memorandum, IOM-REASON-2019-001.
8. **Grima C.**, (2017), *Europa Radio Noise Shadow*, Jet Propulsion Laboratory Interoffice Memorandum, IOM-REASON-2017-001.
7. **Grima C.**, (2014), *Europa Space Environment and Radar Operations*, White paper for the "Ice Penetrating Radar team for the Instrument Concept for Europa Exploration" (ICEE) program (JPL/NASA).
6. Schroeder D.M., **Grima C.**, Blankenship D.D., (2012), *Assessing the Utility of the Europe Clipper Radar Sounder to Identify Potential Landing Sites*, White paper for the "Europa Science Definition Team", July 2012.
5. **Grima C.**, (2011), [Surface et subsurface de Mars par sondage radar : Analyse des données MRO/Sharad](#), Thèse de doctorat, Université de Grenoble.
4. **Grima C.**, Witasse O., and Orosei R., (2009), [MEX-MARSIS subsurface \(SS\) mode: Total electron content \(TEC\) of the ionosphere level 5 derived data. Experimenter to planetary archive interface control document \(EAICD\)](#). European Space Agency.
3. **Grima, C.**, and Kofman, W., (2008), [Ionospheric impact on MARSIS radar signal](#). ESA European Space Agency contract report No 21646/08/NL/NR, volume 1.
2. **Grima, C.**, and Kofman, W., (2008), [Correcting the ionospheric impact on MARSIS radar signal](#). European Space Agency study contract report No 21646/08/NL/NR, volume 2.
1. **Grima, C.**, and Kofman, W., (2008), [MARSIS derived enhanced ionospheric calibration data](#). European Space Agency study contract report No 21646/08/NL/NR, volume 3.

Conferences

136. Jawin E.R., B.A. Campbell, **C. Grima**, Seasonal CO₂ Deposition at the Martian Poles as Recorded by SHARAD, 8th International Conference on Mars Polar Science and Exploration, Abstract #6058.
135. Chan K., **C. Grima**, C. Gerekos, and D. D. Blankenship, [Characterizing the altitude dependence of radar reflectometry for the \(near-\)surface of icy worlds](#), EGU General Assembly 2024, Vienna, Austria, EGU24-13404.
134. Gerekos C., **C. Grima**, Mastrogiuseppe M., Di Carlofelice A., Blankenship D. D., [Observing Solar Radio Bursts with Radar Sounders: Implications for Europa Clipper/REASON and JUICE/RIME](#), 55th Lunar and Planetary Science Conference 2024, The Woodlands, TX, Abstract 1287.
133. **Grima C.**, W. Kofman, A. Hérique, P. Beck, Gulick S. P. S., Goudge T. A., C. Gerekos, [Updated Basal Detectability of an Ice Covered Mars by MARSIS](#), 55th Lunar and Planetary Science Conference 2024, The Woodlands, TX, Abstract 1514.
132. Phillips C. B., Scully J. E. C., Cameron M. E., Craft K. L., **C. Grima**, Persaud D. M. et al., [A Reconnaissance Strategy for Landing on Europa, Based on Europa Clipper Data](#), 55th Lunar and Planetary Science Conference 2024, The Woodlands, TX, Abstract 1672.
131. Gulick S. P. S., **C. Grima**, Prakash M., Gerekos C., Jordan M. T. K., Kramer G. Y., [Asymmetries of Schrödinger Impact Basin from Integrated Geophysics: Role of Pre-Existing Basins](#), 55th Lunar and Planetary Science Conference 2024, The Woodlands, TX, Abstract 2234.
130. Prakash M., Gulick S. P. S., **C. Grima**, Gerekos C., Jordan M. T. K., Kramer G. Y., [Integrated Subsurface Radar Analyses to Characterize the Schrödinger Pyroclastic Deposit](#), 55th Lunar and Planetary Science Conference 2024, The Woodlands, TX, Abstract 1784.
129. Jordan M. T. K., **C. Grima**, Gulick S. P. S., Prakash M., Gerekos C., Kramer G. Y., [Calibration of Lunar Radar Sounder Surface Reflectivity](#), 55th Lunar and Planetary Science Conference 2024, The Woodlands, TX, Abstract 1609.
128. **[Invited Speaker] Grima C.**, The Properties of Planetary Surfaces from Radar Sounders, Texas Geophysical Society, University of Texas at Austin, USA
2023 -----
127. Scully J., C. B. Phillips, M. E. Cameron, K. L. Craft, **C. Grima**, D. Persaud, [A reconnaissance Strategy for Landing on Europa, Based on Europa Clipper Data](#), The Geological Society of America GSA Connects, 201-10, Pittsburgh, USA.
126. Chan K., **C. Grima**, C. Gerekos, J. M. Moore, D. D. Blankenship, [Near-surface Layer Characterization of Icy Moons: a Multi-bandwidth Radar Reflectometry Approach](#), AGU Fall Meeting 2023, P41H-3280, San Francisco, USA.

125. Blankenship et al. (inc. **C. Grima**), [Radar for Europa Assessment and Sounding: Ocean to Near-surface \(REASON\)](#), AGU Fall Meeting 2023, P41G-3264, San Francisco, USA.
 124. Phillips C. B., J. E. C. Scully, M. E. Cameron, K. L. Craft, **C. Grima**, D. M. Persaud, [A Reconnaissance Strategy for Landing on Europa, based on Europa Clipper Data](#), AGU Fall Meeting 2023, P41G-3258A, San Francisco, USA,
 123. Daubar I. (inc. **C. Grima**), [Planned Geological Investigations of the Europa Clipper Mission](#), AGU Fall Meeting 2023, P43B-03, San Francisco, USA,
 122. Shadab A., S. Adhikari, A. Rutishauser, **C. Grima** and M. A Hesse, [Mechanism and Factors Controlling Ice Layer Formation in Glacial Firn](#), AGU Fall Meeting 2023, C43D-1632, San Francisco, USA.
 121. Shadab A., A. Rutishauser, **C. Grima** and M. A Hesse, [A Unified Kinematic Wave Theory for Melt Infiltration into Firn](#), AGU Fall Meeting 2023, C43D-1629A, San Francisco, USA.
 120. **Grima C.**, K. Chan, D. D. Blankenship, and L. Bruzzone, [Synergistic Science at the Jovian Icy Moons with RIME and REASON](#), DPS/EPSC Joint Meeting 2023, San Antonio, USA.
 119. Gulick S. P. S., **C. Grima**, C. Gerekos, G. Kramer, and M. Jordan, [Integrated Measurements and Analysis of Geophysics of Schrodinger \(IMAGES\)](#), DPS/EPSC Joint Meeting 2023, San Antonio, USA.
 118. **[Invited Speaker] Grima C.**, [Deciphering the \(Near-\)Surface of Planets with Nadir-pointing Radar Statistics](#), EGU General Assembly 2023, Vienna, Austria, EGU23-2134.
 117. Chan, K., **Grima C.**, D. D. Blankenship, [RIME-REASON synergistic opportunities for surface and near-surface investigations of icy moons](#), EGU General Assembly 2023, Vienna, Austria, EGU23-10554.
 116. **Grima C.**, W. Kofman, A. Hérique, P. Beck, [Frequency Dispersion of the Martian Surface Reflectivity by MARSIS](#), 54th Lunar and Planetary Science Conference 2023, The Woodlands, TX, Abstract.
- 2022 -----
115. Chan K., **C. Grima**, J. Moore and D. D. Blankenship, [Multi-frequency Radar Characterization of Ganymede's Near-surface](#), Earth and Planetary Science Conference, Granada, Spain, #EPSC2022-743.
 114. **[Invited Speaker] Grima C.**, and the REASON Team, Assessing (Near-)Surface Properties from REASON Reflectometry, Europa Clipper Reconnaissance Focus Group, Remote.
 113. Gerekos C., M. Haynes, **C. Grima**, D. D. Blankenship, [The Stratton-Chu Integral with a rough Facet Formulation for All-Scale Radar Sounder Simulations: Assessment with Reflectometry](#), IGARSS 2022, #3558, Kuala Lumpur, Malaysia.

112. Chan K., **C. Grima**, A. Rutishauser, D. A. Young, R. Culberg, D. D. Blankenship, [Ice layer detection, distribution, and thickness in the near-surface firn on Devon Ice Cap: a new dual-frequency radar characterization approach](#), EGU General Assembly 2022, EGU22-6414, Vienna, Austria.
111. Phillips. C, J. E. C. Scully, M. E. Cameron, K. L. Craft, **C. Grima**, D. M. Persaud and K. P. Hand, [A Reconnaissance Strategy for Landing on Europa, based on Europa Clipper Data](#), AbSciCon, Atlanta, USA, Abstract #521-04.
110. Scully J. E. C., C. B. Phillips, M. E. Cameron, K. Craft, D. M. Persaud, **C. Grima**, and K. P. Hand, [Applying Lessons Learned from Previous Planetary Missions to the Europa Lander Mission Concept](#), AbSciCon, Atlanta, USA, Abstract #406-03.
109. **[Invited Speaker] C. Grima** Hope for Present-Day Martian Groundwater Dries Up, Geology Foundation Advisory Council, March 4th Meeting, Jackson School of Geosciences, UT Austin, TX
108. **Grima C.**, J. Mouginot, W. Kofman, A. Hérique, P. [The Basal Detectability of an Ice Covered Mars by MARSIS](#), 53th Lunar and Planetary Science Conference, The Woodlands, TX, Abstract #1202.
107. **Grima C.**, N. E. Putzig, B. A. Campbell, M. R. Perry, S. P. Gullick, R. C. Miller, A. T. Russell, K. M. Scanlan, G. Steinbrügge, D. A. Young, S. D. Kempf, G. Ng, D. Buhl, D. D. Blankenship, [Martian Roughness at 15-m Scale from Radar Statistics](#), 53th Lunar and Planetary Science Conference, The Woodlands, TX, Abstract #1198.
106. Miller, R., **C. Grima**, S. P. S. Gulick, T. Goudge, N.E. Putzig, M.R. Perry, A. T. Russell, B.A. Campbell, [Volcanic Facies and 15m Scale Roughness Throughout Athabasca Valles Lava System: A Multi-Stage Flow Development](#), 53th Lunar and Planetary Science Conference, The Woodlands, TX, Abstract #1554.
105. Phillips C., Scully J. E. C., Cameron M. E., Craft K. L., **Grima C.**, D. M. Persaud, and K. P. Hand, [A Reconnaissance Strategy for Landing on Europa, Based on Europa Clipper Data](#), 53th Lunar and Planetary Science Conference, The Woodlands, TX, Abstract #2150.
104. Russell, A., M. R. Perry, N. E. Putzig, **C. Grima**, R. C. Miller, S. S. Gulick, [Understanding Elysium Planitia Through Statistical and Standard Radar Analysis](#), 53th Lunar and Planetary Science Conference, The Woodlands, TX, Abstract #2782.
103. Gulick S. P. S., **Grima C.**, Gerekos C., Kramer G., [Geophysical Characterization Opportunities in Schrödinger Impact Basin Using Kaguya Lunar Radar Sounder and Lunar Reconnaissance Orbiter](#), 53th Lunar and Planetary Science Conference, The Woodlands, TX, Abstract #1739.
102. Scully J., C. B. Phillips, M. E. Cameron, K. Craft, D. M. Persaud, **C. Grima**, and K. P. Hand, [The Application of Lessons Learned from Previous Landing and/or Sampling Missions to the Europa Lander Mission Concept](#), 53th Lunar and Planetary Science Conference, The Woodlands, TX, Abstract #2291.

101. **[Invited Panelist] C. Grima**, [Europa Lander Speaker Series](#), Caltech/JPL, online.

2021 -----

100. M. A. Shadab, **C. Grima**, A. Rutishauser and M. A. Hesse, [Analytical Solutions for Melt Percolation in Ice Masses and a Pathway to Ice Lens Formation](#), AGU Fall Meeting, 2021, New Orleans, LO.

99. **[Invited] C. Grima**, [The Europa Clipper Mission and the Search for Brine](#), Brines Across the Solar System: Modern Brines, LPI conference, October 2021, Online.

98. **[Invited] C. Grima**, [Deciphering the surface and near-surface of planets with radar statistics](#), UTIG seminar, Online.

97. **C. Grima**, N. E. Putzig, B. A. Campbell, M. R. Perry, K. M. Scanlan, [The Coherent Character of the Martian Surface at 20 MHz](#), 52th Lunar and Planetary Science Conference, Online, Abstract 1221.

96. M. Liu-Schiaffini, S. Christian, R. C. Miller, **C. Grima**, G. Ng, S. S. Gullick, [Machine Learning Classification of the Martian Surface: Application to Radar Reflectometry](#), 52th Lunar and Planetary Science Conference, Online, Abstract 1224.

95. **[Invited] C. Grima**, [Deciphering the Surface of Planetary Cryospheres with Radar Sounders](#), Sci-to-Sci event, the Consulate General of France in Houston, Online.

2020 -----

94. K. M. Scanlan, G. Steinbruegge, **C. Grima**, D. A. Young and D. D. Blankenship, [Impact of 1-Bit Sampling of Radar Sounding Data for Deep Space Applications: Demonstration at Mars and Implications for Europa](#), AGU Fall Meeting 2020, Online.

93. G. Steinbrügge, D. M. Schroeder, M. Haynes, K. M. Scanlan, D. A. Young, **C. Grima**, A. Stark, H. Hussmann and D. D. Blankenship, [Altimetry from Planetary Radar Sounders](#), AGU Fall Meeting 2020, Online.

92. **[Invited] C. Grima**, [The Habitability of Europe and its Investigation by Radar Sounding](#), National Oceanography Center Seminar, Liverpool, UK, Online.

91. **C. Grima**, C. Gerekos, K. M. Scanlan, G. Steinbrugge, D. A. Young, S. D. Kempf, and D. D. Blankenship [Mars as an Analog to Anticipate Radar Surface Reflectivity at Europa](#), 51th Lunar and Planetary Science Conference, The Woodlands, TX, Abstract 1471. *[Canceled due to COVID-19]*

90. D. A. Young, D. D. Blankenship, N. S. Wolfenbarger, **C. Grima**, K. M. Soderlund, K. F. Chan, T. G. Richter, and the REASON Science Team, [An Ensemble of Point Models Approach for Science Verification and Validation for Europa Clipper's REASON \(Radar for Europa Assessment and Sounding: Ocean to Near-surface\)](#), 51th Lunar and Planetary Science Conference, The Woodlands, TX, Abstract 2918. *[Canceled due to COVID-19]*

89. K. M. Scanlan, D. A. Young, G. Steinbrügge, **C. Grima**, S. D. Kempf and D. D. Blankenship [Quantitative Approaches to Assess the Quality in Synthetic Aperture Radar Focusing for Orbital Radar Sounding Datasets](#), 51th Lunar and Planetary Science Conference, The Woodlands, TX, Abstract 1591. *[Canceled due to COVID-19]*
 88. **[Invited] C. Grima**, [The Advent of Cryospheres & the Concatenation of Worlds](#), Inaugural talk to the Center for Planetary Systems and Habitability (CPSH) seminar series, UT Austin, TX.
- 2019 -----
87. D. Young, J. Greenbaum, D. Blankenship, M. Siegert, J. Roberts, T. van Ommen, A. Aitken⁶, **C. Grima**, E. Le Meur and The ICECAP collaboration, [ICECAP's contribution to NASA's Operation IceBridge in East Antarctica](#), AGU Fall Meeting 2019, San Francisco, CA.
 86. S. Christian, M. Liu-Schiaffini, A. Rutishauser, K. Chan, **C. Grima** and D. Blankenship, [Investigating Ice Surface Elevations Derived from Laser and Radar-sounding Measurements Over Devon Ice Cap, Canadian Arctic](#), AGU Fall Meeting 2019, San Francisco, CA.
 85. G. Steinbrügge, M. Haynes, K. Scanlan, D. Young, **C. Grima**, S. Kempf, D. Schroeder and D. Blankenship, [SHARAD Altimetry on Mars: Towards an improved, global digital terrain model](#), AGU Fall Meeting 2019, San Francisco, CA.
 84. K. Scanlan, L. Beem, **C. Grima**, D. Buhl, D. Young and D. Blankenship, [Differentiating Subglacial Drainage Patterns through the Depolarization of Airborne Radar Sounding Measurements](#), AGU Fall Meeting 2019, San Francisco, CA.
 83. K. Chan, A. Rutishauser, **C. Grima** and D. Blankenship, [Detection of Near-Surface Frozen Brines at Europa: Radar Investigation of a Canadian Arctic Analog](#), AGU Fall Meeting 2019, San Francisco, CA.
 82. C. Gerekos, **C. Grima**, G. Steinbrügge, K. Scanlan, D. Young, L. Bruzzone, and D. Blankenship [Comparing the multifractal properties of European and Martian surfaces](#) EPSC-DPS Joint Meeting 2019, Geneva, Switzerland, Abstract EPSC-DPS2019-330.
 81. G. Steinbrügge, J.R.C. Voigt, D.M. Schroeder, A. Stark, M.S. Haynes, K.M. Scanlan, C.W. Hamilton, D.A. Young, H. Hussmann, **C. Grima**, D.D. Blankenship [Reassessing Europa's Surface Roughness](#) EPSC-DPS Joint Meeting 2019, Geneva, Switzerland, Abstract EPSC-DPS2019-865.
 80. **[Invited] C. Grima** [Planetary Analogy and Radioglaciology](#), Five Decades of Radioglaciology, IGS Symposium, Stanford, California, Abstract 81A3081.
 79. A. Romero-Wolf, D. M. Schroeder, S. Peters, B. Bills, D. D. Blankenship, L. Bruzzone, B. Campbell, L. Carrer, **C. Grima**, E. Heggy [Status and prospects of passive sounding with radio-astronomical sources](#), Five Decades of Radioglaciology, IGS Symposium, Stanford, California, Abstract 81A3009.

78. K. M. Scanlan, G. Steinbruegge, S. D. Kempf, **C. Grima**, D. A. Young, D. D. Blankenship [Alternative strategies for synthetic aperture radar focusing of orbital radar sounding measurements](#), Five Decades of Radioglaciology, IGS Symposium, Stanford, California, Abstract 81A3054.
 77. A. Rutishauser, D. D. Blankenship, L. Beem, J. S. Greenbaum, D. A. Young, **C. Grima**, L. N. Schwartz, J. A. Foran, A. Criscitiello [New radar-sounding investigations over the hypersaline subglacial lakes beneath Devon Ice Cap, Canadian Arctic](#), Five Decades of Radioglaciology, IGS Symposium, Stanford, California, Abstract 81A3055.
 76. D. A. Young, **C. Grima**, G. Steinbrügge, K. M. Scanlan, S. D. Kempf, D. D. Blankenship [REASON for Europa: data products and algorithms](#), Five Decades of Radioglaciology, IGS Symposium, Stanford, California, Abstract 81A3056.
 75. J. S. Greenbaum, D. M. Schroeder, **C. Grima**, N. Gourmelen, C. Dow, F. Habbal, J. Roberts, R. Warner, D. Gwyther [Surface and basal melting of the Totten Glacier Ice Shelf, East Antarctica](#), Five Decades of Radioglaciology, IGS Symposium, Stanford, California, Abstract 81A3067.
 74. T. Creyts, D. M. Schroeder, **C. Grima**, W. Chu, T. M. Jordan, J. Paden, R. Culberg [Bed roughness as a control on the drainage of subglacial water](#), Five Decades of Radioglaciology, IGS Symposium, Stanford, California, Abstract 81A3175.
 73. **[Invited] C. Grima** [The Habitability of Europa and its Investigation by Radar Sounding](#), Department of Astronomy Colloquium, UT Austin, TX.
 72. G. Steinbrügge, K.M.Scanlan, D.A. Young, **C. Grima**, S.D.Kempf and D.D. Blankenship [Sharad Radar Altimetry and Geodesy](#), 50th Lunar and Planetary Science Conference (2019), The Woodlands, TX, Abstract 1993.
 71. K. M. Scanlan, D. A. Young, **C. Grima**, G. Steinbrügge, S. D. Kempf and D. D. Blankenship [Englacial radar Attenuation Rates in the Promethei Lingula Area of the Martian South Polar Layered Deposits](#), 50th Lunar and Planetary Science Conference (2019), The Woodlands, TX, Abstract 1994.
 70. **C. Grima**, G. B. Steinbrügge, K. M. Scanlan, D. A. Young, N. E. Putzig, M. R. Perry, B. A. Campbell, S. D.Kempf and D. D. Blankenship [Deciphering the martian Surface and near-surface with Radar Statistics](#), 50th Lunar and Planetary Science Conference (2019), The Woodlands, TX, Abstract 1280.
- 2018 -----
69. D. A. Young, **C. Grima**, G. Steinbrugge, K. M. Scanlan, S. D. Kempf, D. D. Blankenship [REASON For Europa: Data products and algorithms](#), AGU Fall Meeting 2018, Washington, DC, P51G-2955.
 68. G. Steinbrugge, J. R. C. Voigt, A. Stark, B. Giese, D. M. Schroeder, M. Haynes, D. A. Young, **C. Grima**, H. Hussmann, D. D. Blankenship [Reassessing the surface roughness of Europa using Galileo stereo images](#), AGU Fall Meeting 2018, Washington, DC, P42B-05.

67. F. Habbal, J. S. Greenbaum, **C. Grima**, D. A. Young, J. L. Roberts, T. D. van Ommen, D. D. Blankenship [Using radar sounding to detect grounding line positions with evidence of modern grounding line retreat in East Antarctica](#), AGU Fall Meeting 2018, Washington, DC, C51F-1130.
 66. T. T. Creyts, W. Chu, **C. Grima**, D. M. Schroeder [Bed roughness as a control on the drainage of subglacial water](#), AGU Fall Meeting 2018, Washington, DC, C51E-1107.
-A. Rutishauser, D. D. Blankenship, L. Beem, J. S. Greenbaum, D. A. Young, **C. Grima**, A. S. Criscitiello [New insights from an airborne geophysical survey over the hypersaline subglacial lakes beneath Devon Ice Cap, Canadian Arctic](#), AGU Fall Meeting 2018, Washington, DC, C51E-1105.
 65. K. Chan, **C. Grima**, D. D. Blankenship, K. M. Soderlund, D. A. Young [Dielectric Brine-Ice Mixtures on Europa, and the Need for New Experiments](#), Europa Deep Dive 2: Composition, #3015, October 2018, Houston, TX.
 64. N. S. Wolfenbarger, D. D. Blankenship, K. M. Soderlund, D. A. Young, and **C. Grima** [Leveraging Terrestrial Marine Ice Cores to Constrain the Composition of Ice on Europa](#), Europa Deep Dive 2: Composition, #3036, October 2018, Houston, TX.
 63. **[Invited] C. Grima** [Terrestrial Analogs of Icy Worlds](#), Planetary Habitability Pop-Up Institute, University of Texas at Austin.
 62. D. Blankenship, A. Moussessian, J. Plaut, G. W. Patterson, Y. Gim, D. Schroeder, K. Soderlund, D. Young, **C. Grima**, E. Chapin REASON for Europa, COSPAR Assembly (2018), Pasadena, CA, Paper 24665.
 61. **C. Grima**, D. D. Blankenship, C. Paty, Y. Gim, W. Kurth, E. Chapin, D. M. Schroeder, J. J. Plaut, G. Patterson, A. Moussessian, D. A. Young Investigating Europa's Plasma Environment from radar Sounding, COSPAR Assembly (2018), Pasadena, CA, Paper 24685.
 60. Y. Brouet, R. Cerubini, A. Pommerol, N. Thomas, L. Neves, P. Sabouroux. **C. Grima**, [Dielectric spectroscopy measurements of saline aqueous solutions in the VHF-UHF bands: towards a dielectric model for icy satellites water reservoirs](#), 5th IEEE International Workshop on Metrology for Aerospace, Rome, Italy (2018).
 59. B. S. Tober, J. W. Holt, **C. Grima**, J. S. Levy [Radar Reflectivity Analysis of Boulder Halos on Mars: Is Subsurface Ice the Culprit?](#), 49th Lunar and Planetary Science Conference (2018), Houston, TX, Abstract 2935.
- 2017 -----
58. **C. Grima**, I. Koch, J.S. Greenbaum, K.M. Soderlund, D.D. Blankenship, D.A. Young, S. Fitzsimons. [Surface and basal ice shelf mass balance processes of the Southern McMurdo Ice Shelf determined through radar statistical reconnaissance](#), AGU Fall Meeting 2017, New Orleans, USA, C51B-0977.

57. J.S. Greenbaum, D.D. Blankenship, **C. Grima**, D.M. Schroeder, K.M. Soderlund, D.A. Young, S.D. Kempf, M.J. Siegert, J.L. Roberts, R.C. Warner, T.D. van Ommen. [Remote Characterization of Ice Shelf Surface and Basal Processes: Examples from East Antarctica \(Invited\)](#), AGU Fall Meeting 2017, New Orleans, USA, P53H-01.
 56. A. Rutishauser, M.J. Sharp, D.D. Blankenship, M.L. Skidmore, **C. Grima**, D.M. Schroeder, J.S. Greenbaum, J.A. Dowdeswell, D.A. Young. [Geophysical Investigations of Hypersaline Subglacial Water Systems in the Canadian Arctic: A Planetary Analog](#), AGU Fall Meeting 2017, New Orleans, USA, C22A-08.
 55. D.A. Young, **C. Grima**, J.S. Greenbaum, L. Beem, M. Cavitte, E. Quartini, S.D. Kempf, J.S. Roberts, M.J. Siegert, C. Ritz, D.D. Blankenship. [The subglacial roughness of Antarctica: Analogs, interpretation and implications for ice thickness uncertainties](#), AGU Fall Meeting 2017, New Orleans, USA, C32A-05.
 54. K. Chan, **C. Grima**, D. D. Blankenship, D. A. Young, K. M. Soderlund. [Mobilization of Near-Surface Brine on Europa](#). Europa Deep Dive 1: Ice Shell Exchange Processes, Houston, Tx, #7014.
 53. F. Habbal, J. S. Greenbaum, **C. Grima**, D. A. Young, J. Roberts, T. van Ommen, and D. D. Blankenship. [Improved grounding line constraints and evidence of retreat of Totten Glacier, East Antarctica](#), EGU General Assembly, Vienna, Austria, #EGU2017-1526.
 52. J. S. Greenbaum, D. M. Schroeder, **C. Grima**, F. Habbal, C. Dow, J. Roberts, D. Gwyther, T. van Ommen, M. Siegert, and D. D. Blankenship, [Morphological evidence and direct estimates of rapid melting beneath Totten Glacier Ice Shelf, East Antarctica](#), EGU General Assembly, Vienna, Austria, #EGU2017-1559.
 51. Steinbrügge G., D. M. Schroeder, M. S. Haynes, H. Hussmann, **C. Grima**, and D. D. Blankenship, [Assessing the potential for measuring Europa's tidal Love number h2 using radar sounder and topographic imager data](#), EGU General Assembly, Vienna, Austria, #EGU2017-9205.
 50. **Grima C.**, Blankenship D.D., Paty C., Gim Y., Kurth W. S., et al. [Investigating Europa's Plasma Environment from Radar Sounding](#), LPSC XLVIII, The Woodlands, Texas, #2816.
 49. Blankenship D.D., **Grima C.**, Young D.A., Schroeder D.M., Soderlund K.M., et al. [Understanding Europa's Ice Shell and Subsurface Water Through Terrestrial Analogs for Flyby Radar Sounding](#), LPSC XLVIII, The Woodlands, Texas, #2888.
- 2016 -----
48. **Grima C.**, E. Lopez Garcia, I. Koch, J.S. Greenbaum, K.M. Soderlund, D.D. Blankenship, D.A. Young, S. Fitzsimons, [Surface Density, Roughness, and Brine Infiltration Observed with Airborne Radar Statistical Reconnaissance at The McMurdo Ice Shelf, Antarctica](#), AGU 2016, San Francisco, C53A-0701.
 47. Rutishauser A., **C. Grima**, M.J. Sharp, Blankenship D.D., D.A. Young D.A. F. Cawkwell, J.A. Dowdeswell, [Characterizing near-surface firn from the scattered signal component of glacier](#)

surface reflections detected in airborne radio-echo sounding measurements, AGU 2016, San Francisco, C13C-0839.

46. Schroeder D. M., **C.Grima**, M. Haynes, J. Greenbaum, [Distinguishing the signatures of ice shelf surface roughness, basal roughness, temperature and chemistry in radar sounding data](#). International Symposium on Interactions of Ice Sheets and Glaciers with the Ocean. La Jolla, California, USA, Abs #74A1991.
45. Poggiali V., M. Mastrogiuseppe, A. Hayes, R. Seu, S. Birch, R. Lorenz, **C. Grima**, J. Kargel, and J. Hofgartner, [Liquid-filled Canyons on Titan](#), European Geosciences Union General Assembly, EGU2016-8065.
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38. Schroeder D., **Grima C.**, Haynes M., [Surface and Basal Roughness in Radar Sounding Data: Obstacle and Opportunity](#), AGU 2015, San Francisco, C13D-03.
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34. **[Invited] C. Grima** Lecture at UTIG Brownbag at UTIG, [How to carefully operate a radar in the space environment of Europa?](#).
33. Rutishauser A., **Grima C.**, Sharp M., Blankenship D. D., Young D. A., Dowdeswell J. A., The use of airborne radar reflectometry to derive near-surface snow/firn properties on Devon Ice Cap, Canadian Arctic. IASC Network Arctic Glaciology Annual Meeting, University Centre Obergurl, Austria.
32. **Grima C.** and Blankenship. D. D. [Radar Statistical reconnaissance of the 2016 Insight landing sites](#). LPSC, The Woodlands, Texas, #1238.
31. Lalich D. Holt J. W. **Grima C.** [Heterogeneity of SHARAD Reflectivity in the NPLD: Implications for the Climate Record](#). LPSC, The Woodlands, Texas, #2430.

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30. **Grima C.**, Rosales, BlankenshipD. D., Young D. A.. [McMurdo Ice Shelf Sounding and Radar Statistical Reconnaissance at 60-MHz: Brine Infiltration Extent and Surface Properties](#). AGU Fall meeting, San Francisco, #C21C-0372.
29. Rutishauser A., **Grima C.**, Sharp, Blankenship, Young, Dowdeswell. [The use of airborne radar reflectometry to establish snow/firn density distribution on Devon Ice Cap, Canadian Arctic: A path to understanding complex heterogeneous internal layering patterns](#). AGU Fall meeting, San Francisco, #C21C-0352.
28. Palmer, Dowdeswell, Christoffersen, Benham, Young, Blankenship, Richter, Ng, **Grima C.**, Habbal, Sharp. [Airborne geophysical survey of ice caps in the Queen Elizabeth Islands, Arctic Canada](#). AGU Fall meeting, San Francisco, #C21C-0360.
27. Schroeder D.M., **Grima C.**, Blankenship D.D. [Characterizing Englacial Attenuation and Grounding Zone Geometry Using Airborne Radar Sounding](#). AGU Fall meeting, San Francisco, #C53B-0303.
26. **[Invited] C. Grima** UTIG Seminar [Leveraging Radar Sounding with Surface Reconnaissance: From Antarctic Science to Planetary Landing Sites](#), UTIG, Austin, TX.
25. Schroeder D. M., Burch C. B., Soderlund K. M., **Grima C.**, Blankenship D. D., Komacek T. D., Quinn T. M., Van Hecke M. A., Schmidt B. E., Patterson G. W., Plaut J. J. [Icy world science and habitability in the national science olympiad for middle school students](#). Workshop on the habitability of Icy Worlds, Pasadena, California, USA.
24. **Grima C.**, Schroeder D. M., Blankenship D. D., Young D. A. [Europa landing site selection supported by ice penetrating radar](#). Workshop on the habitability of Icy Worlds, Pasadena, California, USA.

23. Blankenship D. D., Moussessian A., Schroeder D. M., Soderlund K., **Grima C.**, Gim Y., Plaut J. J., Schmidt B. E. [Flyby sounding of europa's icy shell: radar investigations, analogs, and instruments for the europa clipper mission](#). Workshop on the habitability of Icy Worlds, Pasadena, California, USA.

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22. **Grima C.**, Schroeder D. M., Blankenship D. D., Young D. A.. Planetary surface roughness derived from ice penetrating radar data: Method and concept validation in Antarctica. AGU Fall Meeting, San Francisco, California, USA. (2013) Grima C., Schroeder D. M., Blankenship D. D., Young D. A.. Firn variability derived from a statistical analysis of airborne ice penetrating radar over the Thwaites Glacier catchment, West Antarctica. IGS Int. Glacio. Soc. Symp. on Radioglaciology, Lawrence, Kansas, USA.
21. **Grima C.**, Schroeder D. M., Blankenship D. D., Young D. A. Identifying Surface Characteristics with an Ice Penetrating Radar Sounder at Europa: Potential for Landing Site selection. Lun. and Planet. Sc. Congress, The Woodlands, Texas, USA.
20. Blankenship D. D., Schroeder D. M., Soderlund K. M., **Grima C.** Flyby sounding of Europa's icy shell: radar investigations, analogs, and instruments for the Europa Clipper Mission. IGS Int. Glacio. Soc. Symp. on Radioglaciology, Lawrence, Kansas, USA.
19. Arnold E., Curra C., Karowski B., Schroeder D. M., **Grima C.**, Young D. A., Blankenship D. D. How to enhance Europa surface characterization with an ice penetrating radar? Comparative study in Antarctica. AGU Fall meeting, San Francisco.

2012 -----

18. Palmer S. J., Dowdeswell J. A., Christoffersen P., Young D. A., Blankenship D. D., Stiebert M. J., Bamber, J. L., Greenbaum J. S., Ng G., **Grima C.** Airborne geophysical investigation of basal conditions at flow transitions of 16 Greenland Ice Sheet outlet glaciers. AGU meeting, San Francisco, USA.
17. **[Invited] Grima C.** Lecture at IPAG, "*Exploiter la nature statistique de l'écho radar pour la caractérisation des surfaces planétaires*", France.
16. **[Invited] Grima C.** Lecture at LEGOS, "*Exploiter la nature statistique de l'écho radar pour la caractérisation des surfaces planétaires*", France.

2011 -----

15. Kofman W., **Grima C.**, Hérique A., Seu R., Radar reflectivity of the surface of Mars at 20 MHz from SHARAD: Cartography and quantitative analysis. AGU meeting, San Francisco, USA.

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14. **Grima C.**, Kofman W. Hérique A., Seu R., Physical parameters of the near-surface of Mars derived from sharad radar reflectivity: statistical approach. 38th COSPAR scientific assembly, Bremen, Germany.

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13. Pommerol A., Mouginot J., Kofman W., Safaeinili A., Plaut J.J., **Grima C.**, Herique A., and Beck P. Martian surface radar reflectivity from MARSIS soundings, AGU meeting, San Francisco, USA.
12. Pommerol A., Kofman W., Audouard J., Kobayashi T., **Grima C.**, Mouginot J., Beck P., and Ono T., Characterization and mapping of the Lunar subsurface by the LRS/SELENE radar sounder : methods and preliminary results, Europ. Planet. Sci. Congress, Potsdam, Germany.
11. Kofman W., Mouginot J., Beck P., Pommerol A., Schmitt B., **Grima C.**, Herique A., Safaeinili A., and Plaut J.J., Mars surface materials from MARSIS radar reflectivity, AGU meeting, San Francisco, USA.
10. **Grima C.**, Kofman W., Hérique A., Beck P., and Seu R., Mapping the radar reflectivity of the Martian surface with the SHallow RADar (SHARAD), Europ. Planet. Sci. Congress, Potsdam, Germany.
9. **Grima C.**, Costard F., Kofman W., Clifford S.M., Mouginot J., Servain A., Herique A., and Seu R., Studying the geomorphology of unusual glacial scarps on Mars, using a multi-instrumental approach, Journées de la SF2A, Besançon, France.
8. **Grima C.**, Costard F., Kofman W., Clifford S.M., Mouginot J., Servain A., Herique A., and Seu R. Large and assymetric polar scarps in Planum, Mars : Characterization and evolution. AGU meeting, San Francisco, USA.

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7. Mouginot J., Kofman W., Safaeinili A., **Grima C.**, Hérique A., Plaut J., and Picardi G. Thickness of south residual cap of Mars by MARSIS. COSPAR scientific assembly, Montreal, Canada.
6. Mouginot J., Kofman W., **Grima C.**, Safaeinili A., and Plaut J. Martian Surface Reflectivity seen by MARSIS. AGU meeting, San Francisco, USA.
5. Kofman W., **Grima C.**, Mouginot J., Hérique A., Seu R., Bicarri D., and Orosei R. 3D modeling of south polar layered deposits on Mars with SHARAD radar data. Europ. Planet. Sci. Congress, Potsdam, Germany.
4. **Grima C.**, Kofman W., Mouginot J., Servain A., Beck P., Pommerol A., Hérique A., and Seu R. Unusual ice scarps on Mars : an origin highlighted by radar sounding, elevation data, and visible imagery. Int. Symp. on Radioglacio. and its App., Madrid, Spain.
3. **Grima C.**, Kofman W., Mouginot J., Servain A., Beck P., Pommerol A., Hérique A., and Seu R. Surface and subsurface study of unusual ice scarps, southern polar cap of Mars. 37th COSPAR scientific assembly, Montreal, Canada.

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2. Kofman W., **Grima C.**, Mouginot J., Herique A., Seu R., Biccari D., Orosei R. 3D Modeling of South Polar Layered Deposits on Mars with SHARAD radar data. EuroPlanet Science Congress, Berlin, Germany, Vol.2., EPSC2007-A-00554, 2007.

2006 -----

1. Gunell H., H. Nilsson, U. V. Amerstorfer, E. Carlsson, **C. Grima**, and the Aspera-3 Team. Plasma instabilities near Mars. 36th COSPAR Scientific Assembly, Beijing, China. #2338