Anna Heffernan, University of Balearic Islands

The LISA Science Team

LISA Spain Meeting Oct 2024,
ICE, CSIC, IEEC

Member of the LISA CCC Steering Committee

Co-Chair of the LISA CCC Engagement Sub-Committee

Co-Chair of the LISA Consortium Waveforms Work Package Team

Member of the LISA Internal Networking Committee in Science (LINCS)

Timeline

Timeline

Jan 2024

LISA got adopted: ESA's Science Programme Committee approved the LISA mission.
=> mission concept and technology are sufficiently advanced and gives the go-ahead to build the instruments and spacecraft: see Science Management Plan

Timeline

Jan 2024

Feb 2024

LISA got adopted: ESA's Science Programme Committee approved the LISA mission. => mission concept and technology are sufficiently advanced and gives the go-ahead to build the instruments and spacecraft: see Science Management Plan

LISA Definition Study Report or Redbook is published as well as open call for the LISA Science Team

Timeline

Jan 2024

LISA got adopted: ESA's Science Programme Committee approved the LISA mission. => mission concept and technology are sufficiently advanced and gives the go-ahead to build the instruments and spacecraft: see Science Management Plan

Feb 2024

LISA Definition Study Report or Redbook is published as well as open call for the LISA Science Team

Jul 2024

LISA Science Team announced: 11 ESA-selected scientists join 6 NASA-selected, 1 consortium representative and project scientists from ESA and NASA

Timeline

Jan 2024

Feb 2024

Jul 2024

Sept 2025

First LISA Science Team meeting
via Teams: Monthly meetings with 3 in person per year

LISA Science Team announced: 11 ESA-selected scientists join 6 NASA-selected, 1 consortium representative and project scientists from ESA and NASA

LISA Definition Study Report or Redbook is published as well as open call for the LISA Science Team

LISA got adopted: ESA's Science Programme Committee approved the LISA mission.
=> mission concept and technology are sufficiently advanced and gives the go-ahead to build the instruments and spacecraft: see Science Management Plan

Science Management Plan

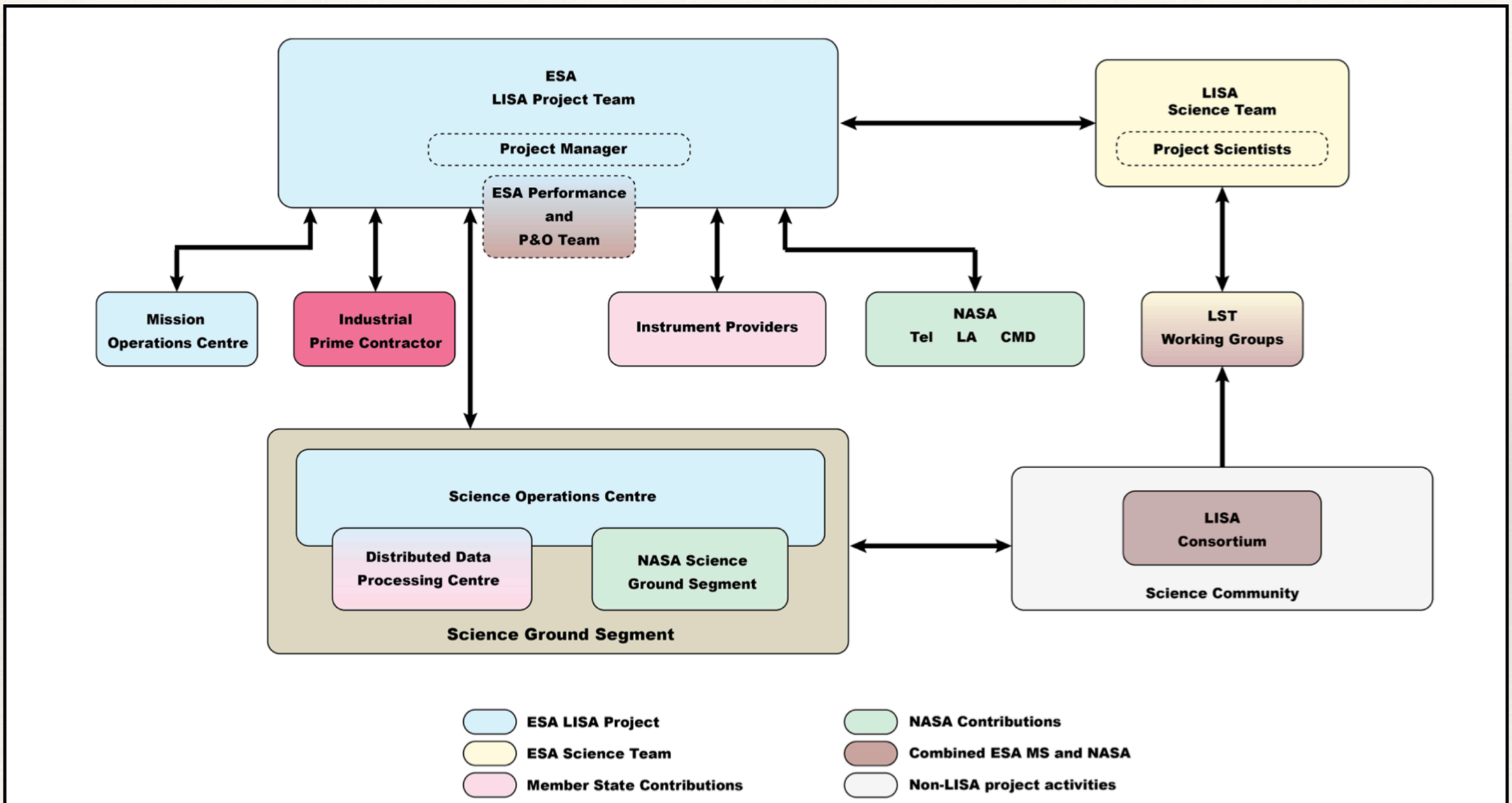

Figure 1: Overview of the LISA management scheme during the Implementation phase.

Science Management Plan

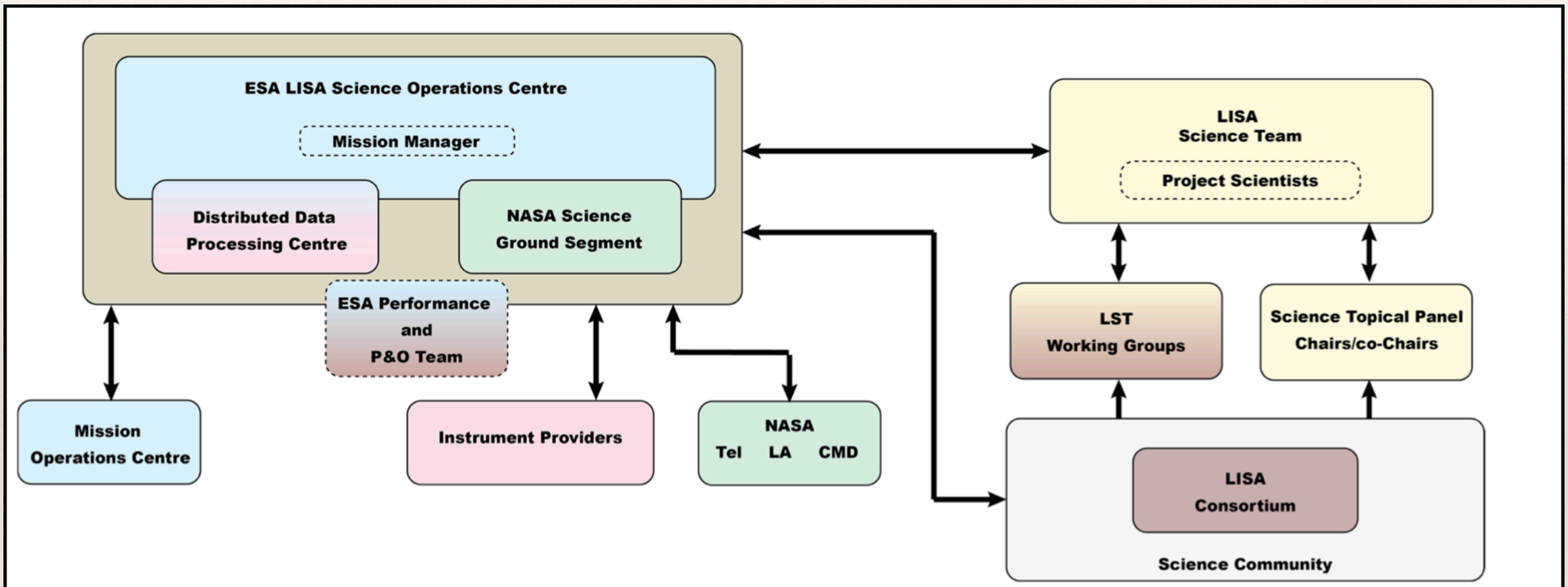

Figure 2: Overview of the LISA management scheme during the science operations phase.

The LISA Science Team (LST)

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

- Maximising scientific return of LISA while ensuring that the development and operations of the mission remain compatible with its main scientific objectives;

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

- Maximising scientific return of LISA while ensuring that the development and operations of the mission remain compatible with its main scientific objectives;
- Optimising the scientific performance of the instrument and spacecraft;

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

- Maximising scientific return of LISA while ensuring that the development and operations of the mission remain compatible with its main scientific objectives;
- Optimising the scientific performance of the instrument and spacecraft;
- Formulating, optimising and maintaining the GW calibration strategy;

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

- Maximising scientific return of LISA while ensuring that the development and operations of the mission remain compatible with its main scientific objectives;
- Optimising the scientific performance of the instrument and spacecraft;
- Formulating, optimising and maintaining the GW calibration strategy;
- Optimising access to the data via the mission archive(s);

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

- Maximising scientific return of LISA while ensuring that the development and operations of the mission remain compatible with its main scientific objectives;
- Optimising the scientific performance of the instrument and spacecraft;
- Formulating, optimising and maintaining the GW calibration strategy;
- Optimising access to the data via the mission archive(s);
- Optimising the analysis and utilisation of LISA data;

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

- Maximising scientific return of LISA while ensuring that the development and operations of the mission remain compatible with its main scientific objectives;
- Optimising the scientific performance of the instrument and spacecraft;
- Formulating, optimising and maintaining the GW calibration strategy;
- Optimising access to the data via the mission archive(s);
- Optimising the analysis and utilisation of LISA data;
- Overseeing the generation of the L3 source catalogue from L2 data products;

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

- Maximising scientific return of LISA while ensuring that the development and operations of the mission remain compatible with its main scientific objectives;
- Optimising the scientific performance of the instrument and spacecraft;
- Formulating, optimising and maintaining the GW calibration strategy;
- Optimising access to the data via the mission archive(s);
- Optimising the analysis and utilisation of LISA data;
- Overseeing the generation of the L3 source catalogue from L2 data products;
- Authorising the release of scientific data products to the community;

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

- Maximising scientific return of LISA while ensuring that the development and operations of the mission remain compatible with its main scientific objectives;
- Optimising the scientific performance of the instrument and spacecraft;
- Formulating, optimising and maintaining the GW calibration strategy;
- Optimising access to the data via the mission archive(s);
- Optimising the analysis and utilisation of LISA data;
- Overseeing the generation of the L3 source catalogue from L2 data products;
- Authorising the release of scientific data products to the community;
- Establishing Working Groups to provide expertise to support the LST in providing scientific advice to the Project and Mission Managers;

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

- Maximising scientific return of LISA while ensuring that the development and operations of the mission remain compatible with its main scientific objectives;
- Optimising the scientific performance of the instrument and spacecraft;
- Formulating, optimising and maintaining the GW calibration strategy;
- Optimising access to the data via the mission archive(s);
- Optimising the analysis and utilisation of LISA data;
- Overseeing the generation of the L3 source catalogue from L2 data products;
- Authorising the release of scientific data products to the community;
- Establishing Working Groups to provide expertise to support the LST in providing scientific advice to the Project and Mission Managers;
- Establishing and managing the Science Topical Panels (STPs) of the Early Release Science Time;

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

- Maximising scientific return of LISA while ensuring that the development and operations of the mission remain compatible with its main scientific objectives;
- Optimising the scientific performance of the instrument and spacecraft;
- Formulating, optimising and maintaining the GW calibration strategy;
- Optimising access to the data via the mission archive(s);
- Optimising the analysis and utilisation of LISA data;
- Overseeing the generation of the L3 source catalogue from L2 data products;
- Authorising the release of scientific data products to the community;
- Establishing Working Groups to provide expertise to support the LST in providing scientific advice to the Project and Mission Managers;
- Establishing and managing the Science Topical Panels (STPs) of the Early Release Science Time;
- Promoting public awareness and appreciation of the LISA mission and supporting ESA and its partners in their outreach efforts.

The LISA Science Team (LST)

The LST monitors the correct implementation of the scientific objectives of the mission and maximises its scientific return. It acts as a focus for the interest of the scientific community in LISA. Its recommendations to the project scientists are for:

- Maximising scientific return of LISA while ensuring that the development and operations of the mission remain compatible with its main scientific objectives;
- Optimising the scientific performance of the instrument and spacecraft;
- Formulating, optimising and maintaining the GW calibration strategy;
- Optimising access to the data via the mission archive(s);
- Optimising the analysis and utilisation of LISA data;
- Overseeing the generation of the L3 source catalogue from L2 data products;
- Authorising the release of scientific data products to the community;
- Establishing Working Groups to provide expertise to support the LST in providing scientific advice to the Project and Mission Managers;
- Establishing and managing the Science Topical Panels (STPs) of the Early Release Science Time;
- Promoting public awareness and appreciation of the LISA mission and supporting ESA and its partners in their outreach efforts.

Members of the LST are expected to monitor the development and operations of the mission and give advice on all aspects that affect its scientific performance. They perform specific scientific tasks as required to discharge their responsibilities during development and operation.

Meet The Team

THE LISA SCIENCE TEAM 2024-2027

esa

Chiara Caprini
Cosmology
Université de Genève, CH

Guido Müller
Instrumentation - IDS
Albert Einstein Institute, DE

William Joseph Weber
Instrumentation - GRS
University of Trento, IT

Deirdre Shoemaker
Waveforms
UT Austin, US

Anna Heffernan
Waveforms
University of the Balearic Islands, ES

Antoine Petiteau
Data Analysis
CEA - Centre de Saclay, FR

Neil Cornish
Astrophysics
MT State, US

Stephen Taylor
Data Analysis
Vanderbilt, US

Nikolaos Karnesis
Data Analysis
Aristotle University of Thessaloniki, GR

Elena Maria Rossi
Astrophysics
University of Leiden, NL

Krista Lynne Smith
Astrophysics
Texas A&M, US

Gijs Nelemans
Consortium Representative
Radboud Universiteit, NL

LISA CONSORTIUM

Valeriya Korol
Astrophysics
Max Planck Institute for Astrophys., DE

Alberto Sesana
Astrophysics
University of Milano Bicocca, IT

Joey Shapiro Key
Astrophysics
UW Bothell, US

Astrid Lamberts
Astrophysics
Observatoire de la Côte d'Azur, FR

Alberto Vecchio
Astrophysics
University of Birmingham, UK

Erin Kara
Astrophysics
MIT, US

ESA | NASA
lisa

So far so good …

So far so good …

Sept 2024:

So far so good …

Sept 2024:

- Introductions and LST members read into mission.

So far so good …

Sept 2024:

- Introductions and LST members read into mission.
- **Upcoming call** for 2 more members:

So far so good …

Sept 2024:

- Introductions and LST members read into mission.
- **Upcoming call** for 2 more members:
  - "Anybody that falls outside the existing expertise of the LISA Science Team."

So far so good …

Sept 2024:

- Introductions and LST members read into mission.
- **Upcoming call** for 2 more members:
  - "Anybody that falls outside the existing expertise of the LISA Science Team."

Oct 2024:

So far so good …

Sept 2024:

- Introductions and LST members read into mission.
- **Upcoming call** for 2 more members:
  - "Anybody that falls outside the existing expertise of the LISA Science Team."

Oct 2024:

- LISA Consortium

So far so good …

Sept 2024:

- Introductions and LST members read into mission.
- **Upcoming call** for 2 more members:
  - "Anybody that falls outside the existing expertise of the LISA Science Team."

Oct 2024:

- LISA Consortium
- Status of Figures of Merit

So far so good …

Sept 2024:

- Introductions and LST members read into mission.
- **Upcoming call** for 2 more members:
  - "Anybody that falls outside the existing expertise of the LISA Science Team."

Oct 2024:

- LISA Consortium
- Status of Figures of Merit
- Engagement with Scientific Community

Thank you!

This work was supported by the Universitat de les Illes Balears (UIB); the Spanish Agencia Estatal de Investigación grants PID2022-138626NB-I00, RED2022-134204-E, RED2022-134411-T, funded by MICIU/AEI/10.13039/501100011033 and the ERDF/EU; and the Comunitat Autònoma de les Illes Balears through the Servei de Recerca i Desenvolupament and the Conselleria d'Educació i Universitats with funds from the Tourist Stay Tax Law (PDR2020/11 - ITS2017-006), from the European Union - NextGenerationEU/PRTR-C17.I1 (SINCO2022/6719) and from the European Union - European Regional Development Fund (ERDF) (SINCO2022/18146).