**HEMERA Call for Balloon Proposals, CFP-2**

## Submission details

The proposal should be submitted by e-mail to [hemera@snsa.se](mailto:hemera@snsa.se) no later than December 13, 2019, 17.00 Central European time. The e-mail must have a single attachment for each experiment/project in the form of a pdf document with contents based on the template below. The size of the pdf file must not exceed 3 MB and the text should be written with minimum font size 12.

Please indicate “Submission CFP-2” in the subject line of your e-mail.

The name of your pdf file should be composed as follows: **CFP2\_Lastname\_Country.pdf**, e.g. **CFP2\_Andersson\_Sweden.pdf**. In case you are submitting several proposals, add a number to the file name, e.g. **CF2\_Andersson\_1\_Sweden.pdf** and **CF2\_Andersson\_2\_Sweden.pdf**

## Contacts for questions

For programmatic questions, please contact Kristine Dannenberg at Swedish National Space Agency, [hemera@snsa.se](mailto:hemera@snsa.se) . For technical questions, contact Stephane Louvel at CNES [stephane.louvel@cnes.fr](mailto:stephane.louvel@cnes.fr) and/or David Hagsved at SSC, [david.hagsved@sscspace.com](mailto:david.hagsved@sscspace.com)

## Template

Please delete the instructions above and fill in the template below. Keep the numbers and the bold-face titles and replace the rest of the text with your answers.

# Project: Name of proposed research project / experiment

1. **Principal Investigator**  
   Name of primary proposer, including title, affiliation (university/institute, company), year of birth, year of PhD (if any), gender and e-mail address
2. **Co-Investigators**  
   Other proposers (if any), including titles, affiliations (university/institute, company) and e-mail addresses
3. **Entities involved in the experiment**

Please list universities, institutes, companies, etc.

1. **Team size**

Please give approximatenumber of persons involved.

1. **Short description of the team**Describe the expertise of the team and roles in the project/experiment (max 250 words)
2. **Description of the proposed project/experiment**

Use maximum 4 pages (including illustrations, reference list etc.) to address the following:

- short summary/abstract of the project/experiment (max 250 words)

- background of the project/experiment

- detailed science and/or technology objectives

- motivation for the use of the balloon platform

- description of required measurements

- data handling, processing and expected results.

1. **Current status of the project/experiment**

Use maximum one page to address the following on the hardware and software for your experiment:

* Development status and schedule for the hardware and software:   
  Please indicate as follows and provide comments:  
  **A** developed, **B** under development, **C** not developed yet
* Funding situation for the experiment:   
  Please indicate as follows and provide comments;  
  **A** funded, **B** funding not needed, **C** will apply for funding   
  In case of **C**, it is strongly advised to include a Letter of Support from relevant funding body (the letter should be inserted after the last page of the template pdf file)
* Short technical description of the hardware
* Previous use of and tests of the hardware

1. **Synergies with other HEMERA experiments**

Are you aware of any other experiment proposal submitted or to be submitted to this HEMERA Call for Proposals (e.g. by other group, colleagues) that is complementary to your experiment or have synergies with it and would be preferably flown on the same gondola if selected? If yes, please elaborate.

Please note that Yes or No to this question will not impact the evaluation of your proposal but will be used as an input when planning/scheduling flights if your experiment is selected.

1. **Technical information**

Please fill in the right-hand column in the tables below. Submission of definitive answers to all questions is beneficial, but your proposal will be evaluated and assessed also if you are vague or uncertain on some of the requested data. In such cases, it is good to explain which additional information is required before an answer can be provided.

Please consult the description provided for this Call for Proposals as well as the Manuals for Zero Pressure Balloons (ZPB) and Sounding Balloons (SB), before providing your own input.

**Experiment characteristics**

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | Mass (kg) |  |
|  | Dimensions (cm x cm x cm) |  |
|  | Special or late access to experiment during countdown |  |
|  | Free flyer or drop body to be released from gondola  (Kiruna only) |  |
|  | Non-magnetic environment required |  |
|  | Specify hazards (chemicals, lasers, x-rays, radioactive material, etc.) |  |
|  | Other |  |

**Launch and flight requirements**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | \*see below |
|  | Balloon type  Zero pressure balloon (ZPB) or  Sounding balloon (SB) |  | N/A |
|  | Preferred launch site, if any  Choice for ZPB: Kiruna or Timmins, TBC |  | N/A |
|  | Repeated flights required  (number of flights and cadence) |  | N/A |
|  | Constraints on launch season, months, lunar phase, etc.  (Timmins in August-September only). |  | 0-3 |
|  | Any requirements as to the time of day for release and flight |  | 0-3 |
|  | Constraints on environmental flight conditions (e.g. meteorological, other) |  | 0-3 |
|  | Float/maximum altitude (km or bar) |  | N/A |
|  | Float duration (ZPB flights) |  | 0-3 |
|  | Altitude stability (ZPB flights) |  | 0-3 |
|  | Altitude variations (ZPB flights) |  | 0-3 |
|  | Slow decent required (ZPB flights) |  | 0-3 |
|  | Required flight profile |  | 0-3 |
|  | Coordination with other events (satellite overflight, astronomical event, etc.) |  | 0-3 |
|  | Other |  | N/A |

\*Please quantify your requirement(s) from 0-3, where 0=no preference, 1=preferred, 2=strongly preferred, 3=mandatory

**Service system requirements**

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | Azimuth pointing of the payload gondola (1 arc/min available) |  |
|  | Electrical power, need for external power during countdown |  |
|  | Down-link of data (rate in bit/s), continuous or burst |  |
|  | Up-link of data and commands, rate in bit/s, continuous or burst |  |
|  | Other |  |

**Recovery requirements**

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | Maximum recovery time after landing of experiment   1. Save samples/data 2. Recover hardware |  |
|  | Experiment sensitivity to landing/impact forces |  |
|  | Experiment sensitivity to temperature |  |
|  | Any requirements/restrictions on landing environment |  |
|  | Other |  |

**Ground support service requirements**

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | Ground facilities for experiment preparation |  |
|  | Storage facilities |  |
|  | Clean-room facilities (yes/no/level)  (Kiruna only) |  |
|  | Ground support equipment |  |
|  | Ground support terminal and software for display of data and sending commands (yes/no) |  |
|  | Other |  |

1. **Tentative interest in future flights during possible next phase of HEMERA**

The current HEMERA project will end in December 2021 but the consortium plans to apply for a next phase of the project that would start in 2022, if funded by EC.

If this would be the case, would you be interested to apply for HEMERA flight(s) in 2022, 2023, 2024 or 2025? Please indicate all years (or interval) of interest.

NB: The answer to the above question is non-committing, for information purposes only and will not be used in the evaluation of your proposal.