

# **INSTRUCTIONS FOR APPLICANTS**

## **CALL 2016-BR**

**Open call to researchers in Sweden to apply for funding for Balloon and Rocket projects to be launched from Esrange**

**These instructions should be read carefully by all applicants.**

<p style="text-align: center;"><b>2016-BR</b> <b>Research Funding</b> Open call to researchers in Sweden to apply for funding for Research on balloons and sounding rockets to be launched from Esrange</p> <p style="text-align: center;"><b>Deadlines<sup>1</sup></b> Digital version: 2017 February 14, 24:00<sup>2</sup> Paper version: 2017 February 21, 17:00<sup>3</sup></p>
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<sup>1</sup>Two submissions are mandatory, both a digital submission and a paper version with original signatures. See Technical Guidelines for details.

<sup>2</sup>Maximum size of attached PDF document: 5 megabyte

<sup>3</sup>Swedish postal stamp of the preceding working day is sufficient.

### **1. NEWS**

- Please note that this call applies only to the balloon and rocket projects with launches from Esrange. This year the BR call is issued separately from the general research call (2016-R) which is closed.
- SNSB's budget for the balloon and rocket projects launched from Esrange is currently 15 Mkr per year for the costs in both industry (e.g. launches, technical developments) and in academia (salaries, instruments etc). Due to the ongoing commitments, the budget available for the new balloon and rocket projects in 2017 and 2018 is ca 2.5 Mkr and 10 Mkr, respectively. From 2019 and onwards the currently available budget is 15 Mkr/year.
- SNSB's funding decision is expected in late May 2017 which means that the applicants can apply for funding of the activities starting no earlier than in June 2017.

## **2. RESEARCH ELIGIBLE FOR SUPPORT**

The purpose of the programme is to offer rocket and balloon flights for high quality research experiments and to ensure a continuity in the national programme at Esrange. The call is open for balloon- and rocket-born research in various thematic areas, such as:

- Astronomy and Astrophysics
- Space Physics, Solar System Physics
- Fundamental Physics
- Astrobiology
- Atmospheric Research
- Life and Physical Sciences
- Earth Observation
- Technology Research for Space Applications

Educational activities are not covered by the current call. For student projects we advise to utilise the possibilities offered by the German-Swedish student programme REXUS/BEXUS.

Please note that Esrange is the nominal site for the launches within the Balloon and Rocket programme of SNSB.

### **3. SNSB AS A RESEARCH FUNDING AGENCY**

The task of the Swedish National Space Board (SNSB) as research funding agency is to provide means for high quality, internationally competitive space research (incl. Earth Observation and Technology for Space Applications) in Sweden. The projects supported by SNSB may concern observations and experiments in space, analysis of data obtained from space missions, the development of instruments and analytical tools for scientific use in space, participation in the scientific and technical operations of projects in space and preparation of such projects. SNSB has special responsibility to support research projects taking advantage of the possibilities that derive from Sweden's national and international space ventures. SNSB can also support technology research for different space applications outside of space sciences or Earth observation.

#### **Type and extent of support**

The research grants provide traditional research support, with funding at the disposal of a university entity or research institute during the period of contract, in accordance with a standard contract from SNSB. The grant is intended for carrying out research according to the project plan in the application and is normally intended for salaries, instruments, purchased services, etc.

#### **Open Access to optimize impact of research**

SNSB adheres to the basic principle that results and data stemming from publically funded research must be made available on line to other researchers and the general public free of charge without unnecessary time delay. Objectives are to ensure that other scientists will be able to use data in future for other projects and more scientific value of investments as an evident part of the knowledge society.

#### Publication of results

Researchers supported, partly or fully, from research grants from SNSB shall make all reasonable efforts to make sure the results are published in esteemed international journals. The publications must acknowledge support from the Swedish National Space Board (SNSB). Results of original research must be made freely available on line for reading and downloading within 6 months from original publication. A copy of publications with associated metadata standards must be placed in a repository within 6 months from original publication.

#### Data Policy

A data management plan is required for projects where new raw data collection constitutes a major component. See the cover sheet for Enclosure 1 for details.

#### **4. WHO CAN APPLY?**

The principal applicant is required to be, or be eligible to become, affiliated to a Swedish University or research establishment in Sweden where the project work is to be carried out.

Research contracts are issued only to researchers who have a PhD degree. Applicants who do not have a PhD but expect to receive it shortly may nevertheless submit a research proposal. In this case SNSB must receive no later than October 1 a copy of the PhD certificate or a written confirmation from the head of department/institute that the principal applicant has applied for the PhD degree. Lacking this confirmation, the application will not be further considered.

A research grant is normally contracted to a research leader who is younger than 67 years. If the principal applicant will reach this age during the proposed project duration, then the application should contain a plan for the future transfer of leadership of the project to a younger person. If a university department or institute wishes to receive funding for research leaders above the above limits, then the case must be clearly stated, e.g. in a letter from the head of department.

By signing a research application, the principal applicant certifies that all co-applicants stand behind the application.

#### **Collaboration between research groups**

For projects involving close collaboration with other research groups, it is possible to include in the application co-applicants with a different affiliation than the principal applicant, including affiliations outside Sweden. However, the sought funding must normally concern activities and costs in Sweden. If funding is sought for work and activities outside Sweden or if support is sought for persons affiliated outside Sweden, this must be clearly specified and justified in Enclosure 2 of the application.

If the proposed work is to be conducted in collaboration between research groups at two or three departments/institutes in Sweden, it is possible to include the total research programme as a single research application. The forms are prepared for up to three modules, which can be carried out at different places. In this case, the principal applicant submits a full digital and paper proposal. For each secondary the local project leader (co-applicant) submits a paper version of Forms A and B of the same proposal with original signatures of the local project leader and local head of department/institute.

## **5. FUNDING STRUCTURE**

### **Modules**

A single application for a research programme may include up to three modules (see Forms B and F1-F4). The previous section mentioned one usage of this subdivision (research at multiple sites). A research project to be carried out at a single site may also be divided into two or three modules, if it naturally divides into semi-independent blocks. These may correspond to different levels of ambition, different phases of a programme, or activities of different types. Such modules must be presented in Enclosure 1 as components of a single structured scientific project. If the parts are more independent and different in character, then submission of more than one proposal is favoured. As a general rule, if you believe all modules ought to be evaluated by the same set of international experts, then include them in a single proposal. If they can be assessed independently and peer reviewed by different sets of experts, then submit separate research applications instead.

### **Funding period**

Most SNSB grants contain funding for up to three years. SNSB may decide on funding for other periods, whenever this is deemed appropriate. Forms F1-F4 allow specification of costs for four years, but these can be complemented with cost specifications for additional year in Enclosure 2. Applicants should adhere to the following principles when deciding on the number of years to apply for:

- If you append Enclosure 5 to your proposal, then apply for the number of years required for the position you seek support for.
- If you propose a project that requires long-term commitments for delivery of hardware or services to a space project, then specify costs for all phases of the project (can be much longer than four years).
- In all other cases, apply for a maximum of three years.

## 6. CONTENTS OF A RESEARCH APPLICATION

The applications can be written in **Swedish** or **English**. However, many members of the SNSB advisory committees do not understand Swedish and most external expert reviewers are drawn from the international research community. Thus, SNSB may need to have proposals received in Swedish translated to English. Applicants are advised to carefully consider using English in the application in order to make sure that their intents are conveyed without a translational interface.

### Application forms

A proposal must contain the following set of forms:

- Form A (with signatures on paper version)
- Form B (Administrative information)
- Form C (Abstracts)
- Form D (Other sources of funding)
- Form E (Staff overview)
- Form F1-F4 (Sought amounts)

### Enclosures

A set of PDF Cover Sheet is provided for each type of enclosure that can be appended to the proposal:

1. Description of the Research Programme
2. Specification of Costs
3. Progress Report
4. Curricula Vitae
5. Specification of Ph.D. student position(s) and Career position(s)
6. Not applicable for this call, 2016-BR.
7. Mandatory complementary information for Earth Observation (EO) projects
8. Mandatory Complementary Information for Balloon and Rocket Projects

The cover sheet must be the first page of each enclosed enclosure. These sheets specify rules for the contents of each enclosure.

The submitted application must include at least three enclosures (numbers 1, 2 and 4 are obligatory). Read the other four cover sheets to find out which ones are mandatory or applicable to your proposal.

### Submission details

Instructions on how to prepare and submit an application to SNSB are provided in a separate document, entitled “Technical Guideline for Research Applications”.

## **7. DETAILED INSTRUCTIONS ON INFORMATION REQUESTED ON FORMS**

### **Abstract**

Each project is to have an abstract of 100-250 words giving a brief and clear description of the research proposed. The abstract must be included on Form C, but may also be repeated as part of Enclosure 1, if appropriate.

### **Suggestions on evaluators**

To broaden the basis of SNSB's scientific peer review process, every application is expected to include names and contact information for three international experts on the subject of the proposal (Form B). The three experts should be free from conflict of interest with respect to the applicants and their research groups. The three experts must not all have the same gender. Please, do not repeat the same set of proposed names every year.

### **Other funding sources**

It is mandatory to include on Form D information on all grants awarded to the applicant and his/her research group, as well as all funding requests submitted by the applicant/research group to other funding agencies (informative titles of projects required). It is also mandatory to specify in the application forms the degree and the manner in which the activities of the applicant will be supported by the home institution and/or other funding agencies.

### **Additional support required**

If there are foreseen additional costs of the project in addition to the sought amounts, this fact must be clearly specified in Enclosure 2. Describe all additional support required to accomplish the proposed project, e.g. management support, industrial work, and cost items that cannot be estimated at this point in time.

## 8. SUPPORT TO SALARIES

A significant portion of the research funding that SNSB allocates is used for salaries. SNSB is in no case an employer or responsible for the staff of the research projects. Instead, SNSB grants can be used by the administration entity (“bidragsförvaltande organ”), e.g. a university, for salaries and associated social fees for its staff. The employment rules of the administration entity apply to the involved staff. SNSB grants may also be used to hire external consultants with appropriate expertise for the research project.

The salary costs in the application shall reflect the expected salary situation for the person/position in question throughout the period the application concerns (often a yearly percentage increase to be specified at the bottom of Form E). Also specify the social fees (“arbetsgivar- och premieavgift”) prescribed at the administration entity (input on Form E), so that the sought direct costs include social fees. Indirect costs are specified separately (percentages on Form B, with automatic consequences in kkr on Forms F1-F4).

### External consultants

You may seek funding for hiring consultants, if required for the proposed project. The reasons for this and the role of the consultant must be clearly specified in Enclosure 2. On Forms F1-F4, you can enter the associated costs either on the last row under “Staff costs” or further down under services, depending on the local rules for indirect costs.

### General staff costs

This section deals with staff costs purely motivated by the needs of proposed research projects.

In order to seek funding of staff costs from SNSB, the minimum requirements are to:

1. Fill in the upper part of the table in Form E. If employment of a new unspecified person is intended, then put “NN” as name and skip unknown items.
2. On Forms F1-F4, fill in the number of months and the fraction of time to be spent on the research project for each person.
3. In Enclosure 2, specify clearly the role and responsibility of each person proposed to work on the project. It is important to justify the need for the proposed staff.
4. Enclose CV's to the extent required by the cover sheet of Enclosure 4.

You may include any type of staff in this way, as long as their contributions are essential to the proposed research project. Thus, it may include research engineers, programmers, senior staff (e.g. secondment/”friköp”), Research Fellows, PostDocs, PhD students, etc.

Please note that salary costs sought in the way described above, will be judged by SNSB as cost items for the project. Any resulting grant contract will be set up to suit the research project, without taking into account issues such as the length of staff positions and what the employees do beyond the fraction of time supported by SNSB.



### **PhD Position (*Doktorandtjänst*)**

SNSB promotes a healthy recruitment of new students to PhD fellowships, especially in academic environments that provides excellent education and training of the student and in research groups that have an excellent future research potential.

If a PhD student would be a good resource in your proposed research project and if you feel the previous sentence applies to your research group, then fill in Enclosure 5 (in addition to the four points already mentioned under “General staff costs”). It is important that such an enclosure includes a clear and credible plan for the thesis work, including a detailed description of the anticipated research project, that makes it probable that the PhD student will finish his/her thesis within the scope of the project and within four years of full-time efforts. A PhD student salary grant is normally guaranteed for a maximum of 4 years (100% of full time can be sought), but the allocated funds may be used during 5 years, provided the receiving institution contributes 20% per year for five years. The Ph.D. student position shall normally be applied for as an open position and (for successful applications) be advertised at least nationally or according to University rules. The application must contain the CV of the proposed tutor, including specification of tutoring and teaching experience. If the application for a doctoral position concerns an already identified person, his/her CV shall also be appended and the principal applicant must give the reasons for the focussing on that person. Enclosure 5 shall describe the plan and milestones for the Ph.D. studies, the research tasks under the responsibility of the Ph.D. student, and list the expected results and output of his or her research. In addition, the supervisors and their commitment shall be clearly described.

SNSB plans to award approximately four new grants per year that are specifically tailored for PhD fellowships (“doktorandtjänster”). The exact number in a year will depend on budgetary constraints and the excellence of the proposals. In cases where SNSB does not grant a sought support of a PhD fellowship with a tailored PhD grant, SNSB may instead decide on a normal project grant of shorter duration which may include part of the sought PhD costs as general staff contribution to the proposed research project.

### **Career Positions**

SNSB promotes good academic career opportunities for excellent young researchers who have chosen to work with equipment in space or on high altitude rockets/balloons. SNSB plans to award approximately four new grants per year that are specifically tailored for such young researchers. This can take the form of a grant tailored specifically for a two-year PostDoc position or a four-year Research Fellow position (forskarassistentjänst/biträdande lektor). It can also be support to a Senior Researcher position (maximum 6 years) for a researcher who want to qualify for tenure (“tillsvidareanställning”). A letter from the head of department to this effect is an asset in your proposal (Enclosure 5). These are examples and SNSB will consider supporting also other types of academic positions that are in line with local employment rules at your academic entity. If the intended position differs from the above examples, then clearly specify the local employment rules. In general, a person supported on a career position may participate in teaching and tutoring of doctoral students for up to 20 % of the working time funded by SNSB (thus, you can seek 100% of time). The signature of the head of department or institute on the application are considered to guarantee

that the holder of the position is to be offered a workplace and reasonable work conditions during the grant period and the possibility to adhere to the rules given above concerning teaching and tutoring. Before allocation of funding for a career position, SNSB may, whenever necessary, contact the department or institute in question to discuss the conditions for funding of the position.

The person intended for the career position is often the principal applicant of the application, but this is not a requirement. Another principal applicant is preferable if the proposed research work is an integral part of a broader research effort of a group. In such a case, the person intended to hold the career position must be a co-applicant and it is important to clearly identify the subset of tasks under the responsibility of that person and to list the expected results and output of her/his work in the proposed project. If these tasks form a relatively self-standing part of the proposed programme, then it can be made into one of the three modules allowed by the application forms.

If you want a sought salary to be judged against the criteria for career positions, then fill in Enclosure 5 (in addition to the four points already mentioned under “General staff costs”). Successful applicants will receive a grant tailored specifically to support a suitable position. In cases where SNSB does not grant such a tailored career grant, SNSB may instead decide on a normal project grant (usually maximum 3 years) which may include part of the sought costs for the career position converted to a general staff contribution to the proposed research project.

### **Gender aspects**

The number of female researchers using space-based platforms is still rather small in Sweden. SNSB therefore encourages the scientific community to contribute towards more women becoming willing and able to commit themselves to successful research projects. Without waiving quality requirements, SNSB will consider gender as one of several boundary conditions when evaluating applications.

## **9. SNSB HANDLING OF SUBMITTED APPLICATIONS**

Applications written in accordance with these instructions will be examined by external experts and at least one of SNSB's advisory committees (Space Research Advisory Committee, Earth Observation Committee, or Technology Research Committee).

### **Criteria for selection**

When new project proposals are evaluated, many criteria and aspects have to be considered initially. The following aspects will be taken into account specifically (in no particular order):

- The scientific excellence and importance of the project, both nationally and internationally (this is the most important criterion).
- The project aim, goals, implementation and project plan.
- Strong research environment, competitiveness and international standing of the group.
- Motivation for and need of experiments or observations by means of balloon and rocket platforms
- The novelty of the project and its potential to renew, develop and promote future national and international research efforts in using space-based or high-altitude equipment.
- The scientific and technological prospects for the group to successfully execute the project.
- Realistic and well-motivated cost estimates.
- The potential of the project – whilst maintaining high scientific quality – to increase the number of women active in research.
- Societal benefits (in particular for Earth Observation and microgravity research, but also a positive effect in other relevant disciplines).
- For Earth Observations, relevance to Copernicus, GEO/GEOSS and UN Sustainable Development Goals (SDG), if applicable.

The final research programme of SNSB will be based on the above selection criteria, combined with boundary conditions such as budgetary constraints, strategic and policy considerations, gender aspects, and the long-term evolution of the research programme.

### **Decisions and contracts**

The advisory structure is planned to make its recommendations in May 2017, followed by SNSB decisions and issuing of contracts in May-June 2017.

### **Routines for reporting**

Yearly Statements, Final Report and Economic Accounts are to be delivered in accordance with specifications in the contract.