Call for proposals

Co-operation China (NSFC)

Joint Research Projects
The Application of Operations Research in Urban Transport

2012

The Hague, January 2012
Netherlands Organisation for Scientific Research
# Contents

1 Introduction 3  
1.1 Background 3  
1.2 Available budget 3  
1.3 Validity of the call for proposals 3  
2 Aim 4  
2.1 General 4  
3 Guidelines for applicants 6  
3.1 Who can apply 6  
3.2 What can be applied for 6  
3.3 When can applications be submitted 7  
3.4 Drawing up an application 7  
3.5 Specific conditions 8  
3.6 Submitting an application 8  
4 Assessment procedure 10  
4.1 Procedure 10  
4.2 Criteria 10  
5 Contact details and other information 12  
5.1 Contact 12
1 Introduction

1.1 Background

The Netherlands Organisation for Scientific Research (NWO) and the National Natural Science Foundation of China (NSFC) are long-term partners in international research co-operation. In 2009, NWO and NSFC decided to expand their existing agreement focusing on exchange of researchers with an additional component focusing on funding joint research projects. This funding instrument offers funding opportunities for bilateral research co-operation between Dutch and Chinese research groups.

The programme is jointly facilitated by NWO and NSFC. A Call for Proposals is published annually, calling for Sino-Dutch research proposals in thematic areas. The Call features a different thematic priority every year. The thematic priorities are selected jointly by NWO and NSFC, and further developed in a Sino-Dutch expert workshop prior to opening the Call for Proposals.

This Call for Proposals sets out information about the possibilities for submitting applications, the conditions applications must meet and the procedure for assessing the applications. It also includes a brief description of the programme.

Apart from the co-operation between NWO and NSFC, there are several other funding programmes aimed at scientific co-operation between The Netherlands and China.

1.2 Available budget

A budget of up to M€ 1,9 is available for the 2012 Call on the Dutch side. This budget covers funding for up to eight joint projects. NSFC will provide a fund of up to 800,000 RMB for each approved project.

1.3 Validity of the call for proposals

This Call for Proposals pertains solely to the third round in the grant process of the NSFC-NWO Programme 2012 for Joint Research Projects in the theme 'The Application of Operations Research in Urban Transport'
Chapter 2 Aim / NSFCwNWO Joint Research Projects

2 Aim

2.1 General

The NSFC-NWO Programme aims at stimulating sustainable Sino-Dutch research collaboration by funding Joint Research Projects.


The NSFC-NWO Programme aims at bilateral research proposals relevant to key areas identified in The Netherlands and China, as confirmed during a workshop in Delft, The Netherlands, on 26 and 27 September 2011:

Since 2007, more than 50% of the world’s population is living in urbanized areas and a further increase is expected. As a consequence, new and unconventional solutions are needed to address mobility needs of people and logistics problems related to freight transport. At a strategic level, models are needed that address infrastructural planning as well as environmental concerns (carbon emission, congestion, noise) and safety aspects. At an operational level, the management, scheduling and control of various transport flows requires significant attention to cope with the above mentioned problems.

Operations Research is an interdisciplinary mathematical science that focuses on the effective use of resources. Operations Research encompasses several tools such as:

- Analysis of the transport processes and the relevant decision options;
- Mathematical modeling of the process and decisions to be optimized, including calibration and validation with real life data;
- Development of optimization algorithms;
- Mathematical analysis of models and algorithms.

The focus of the NWO-NSFC research programme is on the application of Operations Research in Transport. For the different application areas of the research programme – Traffic, Public transport and Logistics – we can distinguish different aspects, such as design, planning and operation and management. This leads to several research areas. Following is a non-exclusive list of potential topics for research:

- Transport network design for optimum performance under various scenarios;
- Optimum control of traffic and transport systems;
- Strategies for road pricing and demand management;
- Optimization of Inventory Management;
- Dynamic Planning and Operation of Urban Logistics;
- Design of Logistic Systems.
These themes can be structured in the following scheme:

<table>
<thead>
<tr>
<th></th>
<th>Design</th>
<th>Planning</th>
<th>Management and Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traffic</strong></td>
<td>Road / Rail / Waterways network design</td>
<td>Optimum network utilization</td>
<td>Road pricing, Demand management,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Optimum traffic control</td>
</tr>
<tr>
<td><strong>Transport</strong></td>
<td>(Multi) modal, Multi operator system design</td>
<td>Time table design</td>
<td>Dynamic rescheduling</td>
</tr>
<tr>
<td><strong>Logistics</strong></td>
<td>Logistic systems design</td>
<td>Urban logistics</td>
<td>Inventory management; Urban logistics</td>
</tr>
</tbody>
</table>

Chinese cities face different challenges which may need different solutions than the Dutch cities due to differences in culture and institutional conditions, human behavior, size, urban structures (e.g., commuters live in the city centre and work outside the centre in China, while in The Netherlands this is just the opposite). However, certain solutions have been demonstrated to be effective in both countries, such as, for example, the area-wide management of road traffic and the spread of the peak demand.
3 Guidelines for applicants

3.1 Who can apply

Eligible research teams are composed of Dutch and Chinese researchers, with active involvement in the project of a senior Principal Investigator (PI) on both the Dutch and the Chinese side.

For Dutch scientists the NWO / KNAW eligibility criteria are applied, i.e., the Dutch Principal Investigator should be affiliated to:
- a Dutch university or University Medical Centre; or
- an institute affiliated to NWO; or
- an institute affiliated to the KNAW; or
- the Netherlands Cancer Institute KNI; or
- the Max Planck Institute Nijmegen;

AND

have an employment contract for at least the duration of the application procedure and the duration of the research the grant is applied for;

AND

have at least a PhD or an equivalent qualification.

To match the conditions imposed by NSFC on Chinese scientists, any Dutch scientist may be involved in one application / project only.

For Chinese scientists, please refer to the Chinese Call for this programme on NSFC’s website for the eligibility criteria of the Chinese applicants.

3.2 What can be applied for

Joint Research Projects on ‘The Application of Operations Research in Urban Transport’ will run for three to four years. The earliest starting date for successful research projects is January 2013.

Funding can be applied by:

Dutch Principal Investigator:
- employment costs of one Postdoc researcher (for maximum of 36 man-months) or one PhD researcher (for 48 man-months);
- travel expenses and accommodation costs for researchers involved in the project;
- contribution to material costs;
- contribution to field work costs.

The maximum budget that can be applied for on the Dutch side for an individual project will comprise up to k€ 260, covering funding for one Postdoc or PhD position (fixed rates) and a maximum of k€ 60 for research costs (including travel, fieldwork, equipment).

Chinese Principal Investigator:
- travel expenses and accommodation costs for researchers involved in the project;
- contribution to material costs;
- contribution to field work costs;
- some other necessary research costs.
The maximum budget that can be applied for on the Chinese side for an individual project will comprise up to 800,000 RMB.

3.3 When can applications be submitted

The deadline for submitting applications for Joint Research Projects is **25 April 2012, 11.00am CET.** Applications received after the deadline are not eligible for further assessment. After the deadline, improvements of or additions to applications are not permitted.

3.4 Drawing up an application

An application consists of two parts: a completed Iris fact sheet and a core proposal in pdf format.

- The basic information listed in § 3.4.1 should be entered in the Iris fact sheet;
- The descriptions in § 3.4.2 form the core proposal. This information should be included on the application form. The version of this application form that you can download is in Word format. Once your application form is filled out completely, you should save it in pdf format, prior to submitting the application.

Please note that all applications are to be written in **English**, unless indicated otherwise.

Chinese scientists shall submit the relevant materials to NSFC according to the requirements listed in the Chinese Call for this programme on NSFC’s website.

3.4.1 Iris fact sheet

The basic information listed below should be entered in the Iris fact sheet.

- Title of the proposal
  A short and specific title of the proposal.
- Concise summary
  Give a short summary of the proposal, maximum 300 words.
- Applicants
  Enter the personal information for the Dutch Principal Investigator. During the procedure, the Dutch Principal Investigator(s) will serve as contact. There is no need to give suggestions for reviewers on the Iris fact sheet.

3.4.2 Core proposal

The descriptions stated below make up the core proposal. These subjects are addressed on the application form.

**Composition of the research team**

List the names of the researchers involved in the project, both in The Netherlands and in China.

**Institutional environment**

Please indicate the host institution in The Netherlands and in China.

**List of key publications**

Please list five key publications by the applicants related to the proposed research. Please include the names of all authors (preferably with the authors involved in this
The publications should give evidence of the qualifications of the applicants in this field.

**Description of proposed research**
- Relevance to the theme of the Call (maximum of 500 words)
- Fit of the proposal into the thematic focus.
- Research Programme (maximum of 3,000 words);
  - Overall aim, key objectives, scientific background;
  - Originality and/or innovative elements of the topic;
  - Research plan including practical timetable over the grant period;
  - Experimental techniques and/or methodology;
  - Originality and/or innovative elements of the approach.

Description of the research programme should take into account the criteria specified under 'scientific quality of the research proposal' in § 4.2.
- Sino-Dutch co-operation (maximum 500 words);
  - Added value of Sino-Dutch co-operation to the research project, including the complementary of the Dutch and Chinese research teams;
  - The degree of inter-institutional co-operation between the project partners, and the prospects for long term scientific collaboration beyond the duration of the research project.
- Expected results (milestones / deliverables / timetable).

**Budget**

Provide a clear budget for the costs of the proposed activities. Please consider the restrictions mentioned in § 3.2 when preparing your budget.

In the case of exchange visit of scientists, the visiting scientist will cover the costs of the international flights and the host will provide the local accommodation along with a daily allowance and domestic travel costs.

**Curriculum vitae of the Dutch Principal Investigator and the Chinese Principal Investigator**

### 3.5 Specific conditions

For Dutch researchers, this Call for Proposals is subject to NWO’s general grant conditions.

For Chinese researchers, this Call for Proposals is subject to NSFC’s general grant conditions and other specific requirements.

### 3.6 Submitting an application

Applications must be submitted in an electronic form using the Iris system, NWO’s system for electronic applications. To do this, first obtain an access code via NWO’s Iris website (<www.iris.nwo.nl>). Because the Iris access code is exclusively linked to Dutch institutions, the application documents can only be submitted by the Dutch partner.

Applications not submitted via Iris will not be admitted to the selection procedure.

If the main applicant does not have an Iris account yet then this should be created at least one day before the submission. Then any possible registration problems can
still be solved on time. If the main applicant already has an Iris account then he/she does not need to create a new account to submit a new application.
Chapter 4 Assessment procedure / NSFC-NWO Joint Research Projects

4 Assessment procedure

4.1 Procedure

Selection of the proposals is performed according to a joint Sino-Dutch assessment and selection procedure.

1. After the deadline of the Call, the technical admissibility of the proposals is checked. The eligibility is checked in The Netherlands and in China.

2. The quality of the proposals will be assessed by (international) referees, according to the criteria specified in § 4.2. Each proposal is sent to preferably three to four scientific experts, who will review the proposal.

3. The anonymous written reviews are sent to the Dutch applicants. The applicants are given the opportunity to write, preferably with input from both the Dutch and the Chinese partners, a single reply to the referees’ comments. This reply should not exceed three pages.

4. The Assessment Committee comprises independent scientific experts from The Netherlands and China. The Assessment Committee convenes once to moderate, rank and recommend proposals for funding on the basis of the criteria specified in § 4.2. The ranking of the Assessment Committee is sent as an advice to NSFC and NWO.

5. NSFC and NWO jointly decide on the projects to be funded.

The NWO Code of Conduct on Conflicts of Interest applies to all persons and NWO staff involved in the assessment and/or decision-making process.

<table>
<thead>
<tr>
<th>Month</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2012</td>
<td>Publishing of Call for Proposals</td>
</tr>
<tr>
<td>25 April 2012</td>
<td>Deadline for submitting Sino-Dutch research project proposals</td>
</tr>
<tr>
<td>26 April – 25 May 2012</td>
<td>Eligibility check</td>
</tr>
<tr>
<td>26 May – 10 July 2012</td>
<td>Consult with referees (written peer review)</td>
</tr>
<tr>
<td>10 July – end-July 2012</td>
<td>Possibility for rebuttal by applicants</td>
</tr>
<tr>
<td>September 2012</td>
<td>Assessment Committee meeting</td>
</tr>
<tr>
<td>October 2012</td>
<td>Decision on proposals by NSFC and NWO</td>
</tr>
<tr>
<td>November 2012</td>
<td>Informing the applicants</td>
</tr>
<tr>
<td>January 2013</td>
<td>Earliest starting date joint research projects</td>
</tr>
</tbody>
</table>

4.2 Criteria

In assessing and ranking the joint research proposals, the Assessment Committee will consider the following criteria:

- **Relevance to the theme of the Call**
- **Scientific quality of the research proposal**
  - Challenging content;
  - Originality of the topic;
  - Innovative elements;
Chapter 4 Assessment procedure / NSFC-NWO Joint Research Projects

- Potential to make an important contribution to the advancement of science or technology;
- Suitability of proposed method.
- Quality of the research groups
- Sino-Dutch co-operation
  - Added value of Sino-Dutch co-operation to the research project, including the complementary of the Dutch and Chinese research teams;
  - The degree of inter-institutional co-operation between the project partners, and the prospects for scientific collaboration lasting beyond the duration of the research project.
- Expected results

4.3 Composition of the Assessment Committee

The Assessment Committee is composed of scientific experts from China and The Netherlands, and is established as soon as the Call for Proposals has been published. The Assessment Committee reports to NSFC and NWO.
5 Contact details and other information

5.1 Contact

5.1.1 Specific questions

For specific questions about the NSFC-NWO Programme and this Call for Proposals for Joint Research Projects please contact:

The Netherlands
NWO
Ms Petra de Bont
+31 (0)70 3440677
<p.debont@nwo.nl>

Ms Anne Westendorp
+31 (0)70 3490902
<a.westendorp@nwo.nl>

Mr Berry Bonenkamp
+31 (0)70 3494416
<b.bonenkamp@nwo.nl>

China
NSFC
Ms Fan Yingjie
+86 (0)10 62325309
<fanyj@nsfc.gov.cn>

5.1.2 Technical questions about the electronic application system Iris

For technical questions about the use of Iris please contact the Iris helpdesk. Please read the Iris manual before consulting the helpdesk. The Iris helpdesk is available from Monday to Friday from 11.00 to 17.00 hours on +31 900 696 4747. Unfortunately not all foreign phone companies allow you to phone to a 0900 number in The Netherlands. You can also send your question by e-mail to <iris@nwo.nl>.