

STFC Newton Agri-Tech Fund -Rapid Response Pathfinder Projects

INTRODUCTION

Agricultural science and technology is being increasingly driven by the global challenges of; rising populations, rapid development of emerging economies and global shortages of land, water and energy. These challenges are made even more difficult in light of the impact of a changing climate.

The Science and Technology Facilities Council (STFC) Newton Agri-Tech Fund is an initiative that will demonstrate the application of innovative technologies and techniques developed for space applications such as the use of remote sensing, data processing, modelling and simulation to address the needs of the Chinese agricultural community. The programme covers the following themes:

1. **Climate smart agriculture** – developing systems and solutions to improve decision support processes at national, regional and local scales.
2. **Dealing with pest and disease threats** – forecasting and monitoring systems to deal with emerging pest and disease threats.
3. **Sustainable intensification** – assisting Chinese producers attain higher outputs with the same or lower inputs.
4. **Precision agriculture** – advancing progress in the development and exploitation of context-specific precision application and management technology.
5. **Enabling technologies** – demonstration of novel technical solutions that show high potential for addressing any of the above challenge topics.

Initial programme priorities, topics and ambitions were discussed at an open community event held on 9th September 2014 at Rutherford Appleton Laboratory, Harwell. Notes of the meeting are can be found here: <https://stfc.ac.uk/RALSpace/Areas+of+expertise/Earth+Observation/44763.aspx> .

The Science and Technology Facilities Council (STFC) is holding a call for pathfinder projects that will create science and technology partnerships between the UK and China by funding small scale projects. These will address specific agricultural needs through the application of novel agri-tech solutions developed from space related programmes. The aim of this fund is to act as a seedcorn funding mechanism. By successfully de-risking novel concepts these pathfinder projects would enable larger proposals and thereby, maximise the potential to realise opportunities for next-stage funding. These projects will provide a rapid funding route enabling researchers to demonstrate how UK science and technological capabilities can be applied to global agricultural challenges of countries such as China. It is expected that the projects will perform scoping studies, develop proof of concept ideas or run small scale trials.

The STFC supports innovation and is helping deliver economic and wider societal benefits both for the UK and more widely in the international community. STFC works with other research funders, university partners and engages with the industrial and private sectors to support to the UK's world class research communities. This pathfinder project scheme is therefore aimed at both the academic and industrial communities in order to create novel solutions to global challenges from technologies developed through STFC.

THE RAPID RESPONSE CALL

The pathfinder project call of the STFC Newton Agri-Tech Fund has been developed to provide flexible funding directly to participants that use space related technologies and data to provide creative solutions to agricultural challenges faced in China. The programme is aimed at providing seedcorn funding to projects proposed by the academic or industrial communities to de-risking novel concepts that demonstrate a clear link to how it addresses the need in China. The programme will provide funds of up to £50,000 (excluding VAT) to undertake the following activities:

- Support the application of remote sensing or modelling based agricultural solutions in China. e.g. Making research tools, methods or technologies specific to China's environmental or cultural needs.
- Supporting the training of Chinese farmers, inspectors or policy makers in relevant areas e.g. holding workshops.
- Perform scoping studies to assess the needs of Chinese farmers (through modelling or similar) or to perform a feasibility study to assess how a space related technology, method or tool could be used to address the needs and requirements of farmers, inspectors or policy makers in China.
- Run proof-of-concept projects that will demonstrate the feasibility of an idea.
- Run small scale trials of an idea. e.g. on the ground tests in China.

Applicants should consider what activities would be most appropriate to their own strengths and experience. Funds can be used on resource or equipment or data. Any requests for the award funds to be used to employ external parties must be fully justified.

ELIGIBILITY

The STFC Newton Agri-Tech Fund rapid response pilot programme is open to both academic and industrial partners. To be eligible, projects must:

- Clearly show how the innovative science, technology, applications and expertise has been developed to aid the social and economic position of Chinese agricultural community.
- Demonstrate clear engagement with a known Chinese community of users or researchers.
- Exploit UK strengths in Earth observation, modelling or remote sensing technologies.
- Be compliant with ODA rules and guidelines:
<http://www.rcuk.ac.uk/RCUK-prod/assets/documents/international/ODAguidanceRCUKspecific.pdf>
- Be able to be completed and invoiced by the end of the financial year (31st March 2015).

THE AWARD

Successful applicants will receive up to £50,000 (excluding VAT) to deliver activities that will meet the objectives as described in the application. Successful award holders will be required to start activities by 1st December 2014 and complete all activities and submit a final invoice for the work before 31st March 2015.

PROJECT REQUIREMENTS AND OUTPUTS

Proposed projects must include the following elements:

1. A proof of concept or demonstrator of what could be achieved with further development.
2. An executive summary covering the main findings.

3. A presentation for the STFC Newton Agritech management team outlining the main findings and supporting a discussion session on the implications for the programme.

4. Attendance and presentation at an agritech workshop in China in late January/early February 2015. At least one team member must attend the workshop. The effort to cover this must be included within the costings for this project. Travel costs will be funded separately.

ASSESSMENT

Applications for the STFC Newton Agri-Tech Fund will be assessed by peer review panel set up by STFC, against the following criteria:

- **The social and economic impact potential on Chinese agricultural needs**
- **The novelty and innovation of the solutions proposed**
- **The capabilities and track record of the proposed team**
- **How the needs within China align with the proposed work**

APPLICATIONS

Applications must include the attached summary form, supported by a proposal of maximum 6 pages, which must include the following elements:

- Context and background, explaining why the work is needed
- The target users or partners in China
- A summary of the research to be undertaken
- A resource and management plan, identifying the main components of the work, including a schedule and specifying the number of days each team member will work on the project
- A table summarising the costs (broken down, Staff Costs, Equipment, Travel, Data, Other Costs) for each partner in the project.
- A brief track record of the organisations proposing the project
- Summary CVs for the members of staff working on the project

The application must explicitly demonstrate compliance with the eligibility conditions described above.

Applications must be submitted to STFC (NewtonAgriTech@stfc.ac.uk) in a single pdf by **4pm on 21st November 2014**. Successful applicants will be notified within two weeks of the deadline.

Eligible organisations are encouraged to contact Hugh Mortimer (hugh.mortimer@stfc.ac.uk) for more information on this programme.

TIMESCALES

It is expected that the projects will start during December 2014. A brief (2 page) status report will be required at the beginning of February 2015 and the projects must be complete by the end of March 2015