



Capacity Building in Software and Hardware Infrastructures and Data Handling through Astronomy

STFC – NARIT Call

Closing date 16:00hrs on 16th November 2017

The Science and Technology Facilities Council (STFC) and the National Astronomical Research Institute of Thailand (NARIT) are pleased to announce a call to fund high quality projects of 18 months to two years in duration aimed at capacity building in software and hardware infrastructures and data handling through astronomy. It is anticipated that the funded projects will use a range of mechanisms, including training/summer schools and exchange programmes for PhD students, early career researchers, computer programmers, engineers, technicians and outreach.

The specific themes identified for the call are:

- Mechatronics/telescope control
- VLBI engineering, technology and research
- Data handling
- Outreach to support STEM education programme in schools

The total amount available for UK-Thailand collaborative projects is approximately £1m from UK Newton Fund and TBH 15 million from NARIT. STFC Funding extends to 31 March 2020 and all successful projects must be completed by this date.

Background to the STFC-NARIT Programme

Science and technology are the differentiators between countries that are able to tackle poverty effectively by growing and developing their economies, and those that are not. The extent to which developing economies emerge as economic powerhouses depends on their ability to grasp and apply insights from science and technology and use them creatively. Innovation is the primary driver of technological growth and drives higher living standards.¹

How are these activities directly and primarily relevant to the development challenges of Thailand?

Helping countries to meet Sustainable Development Goal (SDG) 4 through enabling quality technical, vocational and tertiary education is one route to economic development. Increasing the number of young adults who have relevant technical and vocational skills for employment in decent jobs is essential for the science and technology advancement that leads countries towards an innovation driven society in the long run. This builds on SDG 8 in promoting economic productivity through technology upgrading and innovation to focus on high-value added sectors, and SDG 9 by enhancing research, upgrading technological capabilities and encouraging domestic technology development, research and innovation.

How will the outcomes of these activities promote the economic development and welfare of Thailand?

¹ IEET 'The Role of Science and Technology in the Developing World in the 21st Century', Lee-Roy Chetty, 2012

Thailand's National Science, Technology and Innovation Policy and Plan, covering 2012 to 2021, is focused on achieving a vision of sustainable economic and societal development through empowering society and local communities, enhancing economic competitiveness and flexibility, energy security and environmental protection. Particular areas for development are technology, engineering and computing which underpin economic advanced and improvements in health systems, education and infrastructure.²

Astronomy is a unique and cost-effective way to further economic development because technological and scientific revolutions underpin economic advances and improvements in health systems, education and infrastructure. National research programmes in astronomy inspire the young to enter careers in science and technology. This not only creates an immediate impact on skills and training by encouraging students to study science and engineering, and equipping students with skills that can be exploited in other sectors leading increased economic development but it pushes the boundaries of science and technology and so supports the growth of a high-technology economy.

NARIT is developing infrastructure and capacity in astronomy and astrophysics, including the development of several robotic telescopes and a Thai VLBI Network (TVN). The skills needed for high accuracy modern telescope control systems and radio astronomy are eminently transferable to high-tech industries. For example, the high precision mechatronics skills needed for telescope control systems could provide considerable benefit to Thailand's industries in areas such as automobile control systems and high precision machining (e.g. computer controlled cutting).

Background to the Newton Fund

The UK contribution will be channelled from the Newton Fund. The Newton Fund is an initiative intended to strengthen research and innovation partnerships between the UK and emerging knowledge economies. It was launched by the Chancellor in April 2014, and will deliver £735million of funding over the course of seven years.

The Fund forms part of the UK's Official Development Assistance (ODA) commitment which is monitored by the Organisation for Economic Cooperation and Development (OECD). ODA funded activity focuses on outcomes that promote the long-term sustainable growth of countries on the OECD Development Assistance Committee list. Newton Fund countries represent a sub-set of this list. For more information, please visit the RCUK Newton Fund page; www.rcuk.ac.uk/international/newton.

The Newton Fund requires that the funding be awarded in a manner that fits with Official Development Assistance (ODA) guidelines. All applications under this call must therefore be compliant with these guidelines www.newtonfund.ac.uk/about/what-is-oda.

This programme will be funded under the People strand of the Newton Fund i.e. increasing capacity in science and innovation, individually and institutionally in partner countries.

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² International Astronomy Union Strategic Plan 2010 - 2020