



## UK-South Africa Newton Fund Programme Summary



British High Commissioner Judith Macgregor, UK Minister for Africa James Duddrige, and South African Minister of Science and Technology Naledi Pandor at the launch of the UK-SA Newton Fund (9 September 2014)



**science  
& technology**  
Department:  
Science and Technology  
REPUBLIC OF SOUTH AFRICA



Department  
for Business  
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British  
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Pretoria

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## Foreword

South Africa and the United Kingdom signed a bilateral agreement on science and technology in 1995, and have been working together since then in areas such as climate change, biotechnology and astronomy.

The signing of the Newton Fund agreement in September 2014 took our relationship to a new level. Based on the principles of co-ownership and co-responsibility, the UK-SA Newton Fund partnership seeks to bring together contributions from both countries to support science, technology and innovation, and to attract additional funding from the private sector and science councils. Aimed at strengthening inter-institutional collaboration in research and innovation, and acting as a catalyst to stimulate research development in South Africa, the partnership has become the flagship of our cooperation.

The Newton Fund partnership also creates a climate conducive to enhanced and expanded collaboration between South Africa and other African countries.

We view the UK-SA Newton Fund as important in enabling our two countries to share existing research infrastructure, increase both public and private sector investment in research and development, and facilitate a sustainable exchange of scientific expertise. We will also be looking at enhancing public interest in scientific research, and raising awareness of its benefits in people's everyday lives.

I am pleased to say that we have already taken significant steps towards the implementation of the objectives of the Newton Fund. I encourage the scientific communities in the UK and South Africa to continue looking for links between the two countries so that we can tackle vexing science questions together, and jointly find ways of meeting short and long-term development needs.

I am confident that this collaboration will yield sustainable and mutually beneficial results for both South Africa and the United Kingdom.

Mrs GNM Pandor, MP  
Minister of Science and Technology



# Department for Business Innovation & Skills



## **Foreword**

The United Kingdom has a proud history in scientific discovery, and today our world-leading research base continues to expand the frontiers of human knowledge. Research and innovation holds promise for addressing major global challenges such as world health and climate change, and is also a key driver of our economic growth and social welfare.

The UK Government is proud to have launched the Newton Fund, which aims strengthen the science and innovation capacity of 15 selected partner countries, to help ensure they also benefit from improved economic development and welfare.

The Fund will also enhance the development of the UK's own research and innovation ecosystem - improving the capacity and skills of UK researchers and innovators, and unlocking wider opportunities for collaboration.

I am delighted by the progress made since the launch of the UK-South Africa Newton Fund in September 2014: 21 UK and South African institutions are now working together to deliver joint activities, 10 funding opportunities have so far been made available through open research calls; and five further activities are currently under negotiation for launch throughout 2015.

I am particularly excited by the diverse range of research activities undertaken by the UK-South Africa partnership. The depth and breadth of the programme covers a vast array of disciplines from health research on non-communicable diseases and TB control, to

improvements in severe weather forecasting and studies on urban transformations. The initial achievements of the programme are a testament to the overall strength of the continuing development of UK-South Africa bilateral science and innovation partnership.

This publication examines the joint programme developed and agreed in the inaugural year of the UK-South Africa Fund. I am looking forward to seeing the realisation of all the enthusiastic discussions and planning of exciting new joint activities which can make a real difference to both South Africa and sub-Saharan Africa.

Rt Hon Greg Clark MP, UK Minister for Universities, Science & Cities,  
Department for Business, Innovation and Skills

A handwritten signature in black ink that reads "Greg Clark". The signature is written in a cursive style with a large, sweeping initial 'G'.



## INTRODUCTION

In September 2014 the UK and South Africa signed an agreement to bolster our science and innovation partnership through the UK-South Africa Newton Fund. Both sides have jointly committed up to R140m (£8m) per year to the fund, creating a catalyst to stimulate socio-economic development in South Africa and more widely across sub-Saharan Africa.

The UK-SA Newton Fund is a subset of the UK's global Newton Fund, worth £375 million over five years to support science and innovation partnerships with emerging powers which will promote the economic development and welfare of 15 partner countries. The UK-SA programme focuses on research calls, fellowships, research chairs, mobility schemes, joint research programmes, and activities focussing on science and technology capacity building, public health, environment and food security, with the ultimate aim of encouraging research and innovation that boosts jobs and growth.

The programme covers three broad categories of activity:

- **People:** improving science and innovation expertise (known as 'capacity building') through student and research fellowships, mobility schemes and joint centres
- **Research:** research collaborations on development topics
- **Translation:** innovation partnerships and challenge funds to develop innovative solutions on development topics

The UK-SA Newton Fund is administered by the UK Department for Business, Innovation and Skills and the South African Department of Science and Technology. UK-SA Newton Fund programme activities are managed by a core group of UK and South African delivery partners. The partners allocate all funding through competitive processes which are open to all eligible parties and assessed against set criteria.

This document describes the agreed joint activities implemented through UK and South African delivery partners, and highlights funding opportunities available through the UK-SA Newton Fund. The document will be updated as new partnerships are formed and new activities are agreed.

For the latest updates on calls, follow us on Twitter @NewtonFund or visit [www.NewtonFund.ac.uk](http://www.NewtonFund.ac.uk)



**UK-SA joint research programme: Research for improved prevention, detection and control of tuberculosis (TB)**

A **UK and SA Medical Research Councils** joint programme (**up to £4m, including R30m from SA MRC**) for research funding to provide evidence for improved strategies for prevention, detection and control of tuberculosis (TB).

The aim is to halt transmission of TB and improve effectiveness of TB treatment in low-resource settings. The focus is on understanding the best ways to adapt and implement existing proven interventions into policy and practice. Research which gives consideration to TB prevention, detection and control in the context of co-morbidities with other communicable and non-communicable diseases will be included.

The SA MRC will lead the call for proposals and implement the call on behalf of all partners. Funded research groups will consist of UK and South African investigators, and co-investigators in other low and middle-income countries may also be included. The UK MRC and SA MRC are currently negotiating with other funding organisations which are interested in contributing to the programme.

*“The Newton Fund Provides a unique and timely opportunity for South African Scientists to partner with British Scientists to work together to solve current health problems that face South Africa”, said SAMRC President Prof. Glenda Gray. “The fund will not only be a great addition to already existing health research projects focusing on TB and NCD’s, but the development of more research projects which will ensure an increase in the development and nurturing of young South African scientists.” - Glenda Gray, President, Medical Research Council, South Africa.*





### **UK-SA joint research programme: Non-communicable diseases research**

The establishment of research partnerships between **UK and South African Medical Research Councils** in non-communicable diseases such as diabetes, hypertension and cancer (**up to £5m**).

Africa is experiencing a new set of healthcare challenges in non-communicable diseases (NCDs), such as diabetes, hypertension and cancer. There are significant gaps in our knowledge about the diversity of the causes of NCDs, their presentation and the responses to medicines in African patients (possibly driven by genetic variation, environmental influence or behavioural factors). New research is required to better understand how these diseases develop, how they present and how patients can be best treated in the African context.

The SA MRC will lead the call for proposals, implementing the call on behalf of all partners. Funded co-investigators from South Africa and the UK will work in partnership with the UK-based GSK open laboratory for NCD research.



### **Newton Mobility Grants**

The **Royal Society, British Academy, Royal Academy of Engineering and the National Research Foundation** have set aside up to **£1.1m** to help strengthen the research and innovation capacity of researchers from South Africa enabling them to collaborate with researchers in the UK. The scheme strengthens the research capacity of the partner country by supporting researchers to establish long term links and networks with UK counterparts. Up to 150 awards lasting up to two years are available to support researchers across the natural sciences, engineering, social sciences and humanities.



### **Newton Fellowships**

Led by the UK **Academy of Medical Sciences**, the **British Academy**, the **Royal Society**, and the **SA National Research Foundation**, up to **£4,5m in funding** will be available for **up to 90 fellowships** split between the natural sciences and engineering, patient-orientated research and social sciences and humanities.

### **Newton Advanced Fellowships**

This programme will focus on supporting early to mid-career international researchers (up to 15 years after obtaining PhDs) who have already established a research group or research network and who have a research track record. The award will be made for one, two or three years and provide a salary to cover research support, training costs, and travel and subsistence, enabling the holder to spend short periods training in the UK or South Africa with the intention of transferring knowledge and research capabilities between partners.

### **Newton International Fellowships**

This programme will enable early career postdoctoral researchers from partner countries (with no more than seven years' active full-time postdoctoral experience) to spend two consecutive years conducting research at a host university or research institution in the UK. All subject areas will be eligible. The award will be made for two consecutive years and provide a stipend, research monies, and basic relocation costs.

The Newton International Fellowship programme aims to enable early to mid-career postdoctoral research fellows to obtain experience in strategic and applied research. In addition, the programme will create an opportunity for the emerging researchers to be mentored and groomed for research leadership; and to enable recently qualified doctoral graduates to gain further experience in a UK or South African research institution.



### Radio Astronomy for Development in Africa

Up to £1m of joint funding via the UK's **Science and Technology Facilities Council (STFC)**, **SA National Research Foundation** and the **SKA South Africa Office** will be made available to develop a new research programme in the area of Astronomy in Africa centred on the **African Very Long Baseline Interferometry Network (AVN)**. This programme aims to use both the UK's and SA's expertise in Radio Astronomy to work with and aid the development of the African Radio Astronomy community through human capital development in STEM related subjects. It is these communities who will maintain the facilities and teach the next generation in science, technology, engineering and mathematics-related subjects, therefore creating a strong, sustainable programme. The initial 3-year commitment may possibly extend for 2 additional years of funding.





## **UK-SA joint programme: Weather and Climate Science Partnership (WCSSP)** **South Africa**

To develop a strategic and structured partnership between the leading weather services in the **UK (Met Office)** and **South Africa Weather Service (SAWS)**, building on existing links to combat the challenges of extreme weather and risks from changing climate. **Up to £1,8m of joint funding.**

Climate and weather services save most lives and mitigate most risk when they are generated and disseminated through a cascade system such as the World Meteorological Organisation's Severe Weather Forecasting Development Project. Global producing centres provide SAWS regional centres with expert tailored regional information. Value is added through local knowledge of regional weather and climate, and tailored services provided to the local community enable them to take action and make a difference.

A programme of activity has been designed to build the capability of the SAWS working alongside the Met Office, including developing the high-resolution modelling capability of SAWS through best practice, science exchanges and training. One area where these services are expected to be of great benefit to local development in South Africa is for the renewable energy sector to manage hazards and assist in the production of clean energy. This will be explored as part of this extensive programme.







National  
Research  
Foundation



HSRC  
Human Sciences  
Research Council

### Social science for development research

The **UK Economic and Social Research Council (ESRC)** and the **South African National Research Foundation (NRF)** supported by the **Human Sciences Research Council (HSRC)** will invest up to **£5m** of joint funding in an extensive programme of social science research and networking activities. The programme will address some of the key social science questions underpinning development in both South Africa and wider sub-Saharan Africa and to build upon significant existing links between SA and UK researchers to develop strong and sustainable collaborations. The programme will bring together leading researchers and centres of excellence in the UK and SA to explore the issues, and deliver outstanding, high-impact research in areas such as urban transformation, the water-energy-food nexus, equity in higher education, economic development and welfare reform, and data infrastructure for development.

One of the first awards made under this programme during Year 1 focuses on promoting development and welfare by deepening collaboration between the **UK-led European Social Survey (ESS ERIC)** and the **South African Social Attitudes Survey (SASAS)**. The grant has provided short-term support to the HSRC and City University London to ensure the fielding of common rotating modules on as part of the 12<sup>th</sup> annual SASAS round, including modules on social inequalities in health and their determinants; understandings and evaluations of democracy; and trust in the criminal justice system. The resulting data will be freely available to scholars in the UK and SA and will form a valuable resource to underpin further collaborative development research between the two countries.





### **Bilateral Research and PhD training programme**

Led by **Research Councils UK (RCUK)** and the **SA National Research Foundation**, up to **£3,5m** of joint funding.

The aim of this programme is to facilitate the capacity building of individuals, and the building of sustainable, long-lasting links between the UK and SA institutions through research and PhD partnerships and placements. Increasing mobility at doctoral level is an important factor in facilitating cross-border research collaboration as connections made at this level can be sustained over longer periods. This kind of partnership will also offer benefits to doctoral researchers in terms of intellectual development, career progression, and access to existing facilities and comparative research. The idea is for both UK and SA researchers/supervisors and PhD students to build strong, strategic and sustainable bilateral collaborations and international networks. This will not only help to build capacity for research, but also support longer-term research careers. This activity will launch in 2015.



### **Leaders in Innovation Fellowship Programme**

Worth **over £200,000 of joint funding** and led by the **UK Royal Academy of Engineering and the SA Technology Innovation Agency (TIA)**, this programme is intended to build the capacity of researchers to commercialise their innovations. The fellowships will be advertised through an open competitive call. Successful applicants will be invited to the UK to participate in an intensive programme of training, networking, and buddying/mentorship, followed by a placement within a research-intensive university, high-tech small and medium enterprises, or other suitable host organisations, where they will be exposed to the day-to-day issues facing technology-driven enterprises. A key element of this programme will be creating links and networks with the successful Enterprise Hub Fellowship Programme. Fellows will also be introduced to UK and international sources of financing. Upon their return to South Africa, it is envisaged that the researchers will be offered support in their home institution. This could include such things as salary recovery or assistance from South African mentors. In this period they will also remain in contact with UK-based mentors or buddies.

TIA will facilitate the following through its Technology Stations Programme:

- support for small and medium enterprise for training and study tours in the UK;
- enterprise support and follow-up in South Africa after visit to the UK;
- expert visit to South Africa facilitated by Royal Academy of Engineering.

This programme could also involve higher education partnerships.





### **Newton Institutional Links**

A total joint amount of **R7m (£400,000) British Council/SA Technology Innovation Agency** Institutional Links Programme will provide seed funding to initiate and develop new research and innovation partnerships.

Tackling global challenges (such as extreme weather conditions and food and energy security) requires an integrated research and innovation approach, bringing together different communities in high-quality partnerships. The Newton Institutional Links Programme aims to build partnerships between the UK and SA centred on shared research and innovation challenges which have direct relevance to SA's social welfare and economic development. Institutional links are designed to complement the Newton Researcher Links Programme to establish links beyond the level of the individual researcher, providing opportunities for more sustainable collaboration.

The objectives of the Institutional Links grants are to provide small-scale seed funding to:

- initiate new research and innovation partnerships between groups, departments and institutions in South Africa and the UK;
- develop existing partnerships at group, departmental and institutional level;
- establish local hubs for joint UK-SA activity in a particular research area and technology development initiatives, enabling engagement from the wider technological and business community.

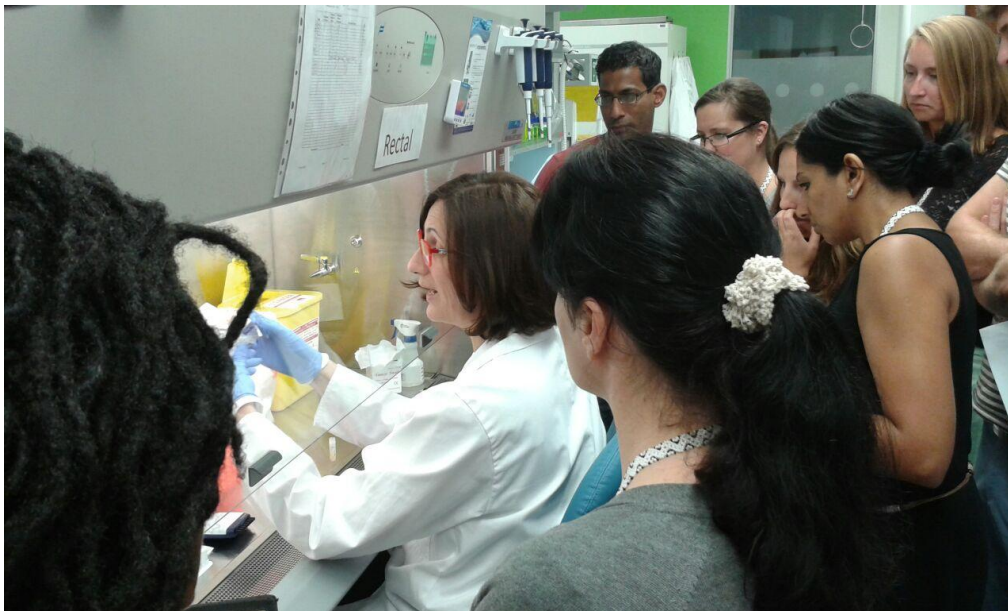
To date two South African awards have been made.

### **Researcher Links (Mobility Fund)**

The **British Council and SA National Research Foundation** will work in partnership on a **R 8m (£1.4m)** International Collaboration Programme (Researcher Links) to support early career and established researchers in forming international research connections through fully funded travel grants and workshops. Lasting five years, the scheme will enrich local expertise, build capacity, and promote future collaboration and/or strengthen existing collaborations.

During 2014/15, two calls for mobility funds were launched and to date three workshops have been held.

*“The NRF values these kinds of mobility grant initiatives as they provide a platform for researchers to meet and explore common interests for research. It is through these opportunities that funders are able to create the space for researchers to identify and develop shared vision and strong interpersonal relationships that can ultimately contribute to greater success and long-term partnerships, that are sustained beyond the funding period”.* Prudence Makhura, Director, International Relations and Cooperation (IRC), NRF



## Technical Training and Employability

The **British Council** and the **Council for Scientific and Industrial Research (CSIR)** have jointly committed **R200 000 per annum** to help facilitate growth of the bioeconomy sector in South Africa through the development of a larger and better skilled workforce. As new bio-based industries develop (including in the health, agriculture and energy sectors), employers will demand that employees have stronger practical and technical skills to support this, including the competence needed to manage teams in technical areas. The Technical Training and Employability Programme will focus on increasing the pipeline of talent in South Africa, particularly for technical roles (bioprocess development and bioengineering domains), and ensuring that future labour market needs can be met. This will include building the relevant employability and practical skills needed to work in the sector.

This programme will:

- Support dialogue, partnership working and capability amongst employer representative bodies, education institutions and other social partners with a focus on workforce planning and skills forecasting in areas essential for economic and social development.
- Build a framework for technical skills development for relevant occupations.
- Pilot schemes to improve the level of technical, practical and employability skills in the sector.
- Establish sustainable structures and supply pipelines, enabling more effective research and innovation in areas relevant to economic development and social well-being.

Outcomes will be fully trained South African course presenters and facilitators that can facilitate modules independently.

*"The cooperation for developing technical training courses for enhancing biomanufacturing capability in South Africa will go a long way in enabling job seekers in our developing Bio-Economy sector. It will be a huge advantage to utilise the knowledge and experienced developed in the United Kingdom to accelerate our own development in this sphere." Dr Daniel Visser; CSIR Biosciences*





## **South Africa – United Kingdom Bilateral Research Chairs**

Led by the **British Council** and **SA National Research Foundation**

The availability and supply of highly skilled researchers and scientists capable of the highest quality of research and innovation, through the production of new knowledge, is of utmost importance for the sustained growth of the South African economy, and its improved competitiveness in a world economy that is increasingly becoming knowledge-based. The South African Research Chairs Initiative (SARChI) is a strategic response by the South African government to address the challenge of developing high-level research skills for the SA National system of Innovation. Through the DST, the SA government is continuously exploring the feasibility of establishing joint, bilateral Research Chairs under SARChI with selected international bilateral partners in strategic scientific domains of mutual interest. The SA-UK Bilateral Chairs partnership is one such initiative aimed at facilitating the establishment of Research Chairs between South Africa and the UK.

The main objective of this project is to establish UK-South African Bilateral Research Chairs in order to (1) strengthen research and innovation capacities in South Africa at the highest scientific level in a selected research domain which will contribute to economic and social development; (2) promote international exchange and cooperation with scientists in the United Kingdom in particular to attract and retain excellent researchers and scientists; (3) foster excellence in education and research, with specific focus on emerging researchers and scientists; (4) increase the production and quality of master's and doctoral graduates in a selected research area; and (5) create research career pathways for young and mid-career researchers, with a strong research, innovation and human capital development output trajectory.

Dr Thandi Mgwebi, the Executive Director for Research Chairs and Centres of Excellence at the National Research Foundation (NRF) says *“The extension of SARChI to international partners creates a space for contributing to a strong and effective research landscape in South Africa, which is essential for solving global challenges, but also national and societal development. This also shows a clear commitment and prioritisation of international collaboration to foster and support the development of research activities in South Africa. This SA-UK partnership through the British Council is particularly important for South Africa because it provides a platform to leverage our supervisory capacity for postgraduate students and help our efforts to strengthen and expand research in food security, water and energy. This will be the first cohort of the SA-UK partnership under SARChI and we look forward to extending it to other research disciplines under the Newton Fund”*

## NEW PARTNERSHIP IN 2015/16



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Under the People Strand of the SA-UK Newton Fund, the **British Council** and **DHET** are discussing a potential partnership to collaborate within the following programmes that relate specifically to the objective of supporting the **new Generation of Academics Programme** (nGAP) as outlined in the Staffing South Africa's Universities Framework (SSAUF). DHET's nGAP programme aspires to allocate 400 posts across the sector, per annum for six years and amounts to:

- 1) Newton Researcher Mobility Programme which will include travel grants that will allow South African academics and researchers to undertake travel to the UK for research and training purposes. It will also provide funding for workshops that will focus on capacity building and establishing potential collaborations with UK institutions.
- 2) Newton PhD Programme (scholarships and , placements and Institutional partnerships) will allow PhD scholars to undergo a period of international training and will build links between Institutions nationally to facilitate the exchange of students and staff from both the UK and SA to enable training and skills development in identified groups (such as the nGAP cohorts) within partner institutions.

*"DHET is looking forward to the proposed areas of collaboration under the Newton Fund as they will support the development of the 'New Generation of Academics Programme (nGAP) as outlined in the Staffing South Africa's Universities Framework (SSAUF). The framework takes as its starting point the urgent imperative to recruit, support and retain black academic staff to address their very serious under-representation at all levels in the sector. It also recognizes the need for more explicit attention to be paid to creating much wider awareness of academic work as a career that is both attractive and attainable for those with ability, and sets out ways through which staff can be effectively recruited, developed and inducted into an academic career. This should lead to greater retention of academics in the system, and to promotion opportunities for well developed, capable staff. The SSAUF recognises the importance of international exposure and experience in the development of academic staff in all their roles (teaching, research, academic leadership and social responsiveness) and thus places high value on the partnership and mobility opportunities that will be made possible through the Newton Fund". Prof Nan Yeld, Director of University Teaching and Learning Development, Department of Higher Education and Training*



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