

**GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA**

UNSTARRED QUESTION NO:2710
ANSWERED ON:05.08.2015
Bilateral Agreement with South Africa
Kher Smt. Kirron

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) whether the Government proposes to renew its bilateral agreement with South Africa for science and innovation;
- (b) if so, the details and present status thereof;
- (c) whether there are specific areas outlined where India plans to initiate projects with the help of this cooperation and if so, the details thereof, project-wise;
- (d) the details of the number of projects that have been taken up during each of the last three years and the current year through the agreement with South Africa; and
- (e) the other steps taken by the Government to promote science and innovation?

Answer

MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES

(SHRI.Y. S. CHOWDARY)

Answer to the question raised by the Minister of State in the Ministry of Earth Sciences (Shri. Y. S. Chowdary) on 05.08.2015 regarding the Bilateral Agreement with South Africa for Science and Technology Cooperation.

(a) & (b): No Madam. There is no proposal under consideration of the Department of Science and Technology to renew its bilateral agreement with South Africa for science and innovation. However, the existing agreement for scientific and technological cooperation between the Government of the Republic of India and the Government of the Republic of South Africa signed in 1995 and renewed in 2007 is still operational. In pursuance of the agreement, a Joint Committee on Scientific and Technological Cooperation (JC) has been established to review and steer S&T cooperation between the two countries. The JC has met 10 times so far, with last meeting held on June 18, 2015, in Pretoria, South Africa, under this framework.

(c) The specific areas of cooperation identified by the JC during its last meeting include Agriculture Biotechnology, Astronomy, Health Sciences, Indigenous Knowledge Systems and Grass roots Innovation.

(d) & (e): Details of R & D projects approved for joint implementation during each of the last three years is as given in Annex - 1. For the current year (2015-16), a joint call for inviting joint R&D projects in thematic area "Astronomy" has been opened with July 31, 2015 as last date. Besides implementing joint projects, scientific meetings and workshops are organised time to time in accordance with recommendation of the Joint Committee.

Contd..2/-

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Annex - 1

Year-wise details of R&D projects approved for joint implementation during each of the last three years.

2011-12

Sl.

No. Title of the Project

Indian coordinator

South African Coordinator Duration

(1) (2) (3) (4) (5)

1. Chloroplast Genome sequencing of Biodiesel Producing Microalgae Strains from Extreme Climates in India and South Africa Dr. S. Elumalai,

Plant Biotechnology Dept.

Presidency College,

Madras University Prof. Faizal Bux

Durban University of Technology

3 years

2 Nanomedicine as a biomedical intervention against Acute Cardiac Syndrome and associated statistical models Dr. Bhaswati Ganguli

Department of Statistics,
University of Calcutta
Kolkata Dr. Sonali Das
Senior Researcher
LQM, Built Environment
CSIR, Pretoria 3 years

3 Development of Functionally Graded Metallic Components by Laser Materials Processing for Bio-implant Application Dr. J. Dutta Majumdar

Department of Metallurgical and Materials Engineering
Indian Institute of Technology Kharagpur-721302 Dr Sisa Pityana
Associate professor

CSIR-National Laser Centre
Pretoria
South Africa 3 years

4 Development of new nuclear medicine diagnostic agents for imaging infection – with focus on tuberculosis
Dr. Anupam Mondal

Institute of Nuclear Medicine & Allied Sciences Brig. Sk. Mazumdar Road, Timarpur, Delhi Dr. Neil Jarvis
South African Nuclear Energy Corporation (Necsa)

3 years

5 Synthesis and antimalarial activity of bioactive heterocyclic compounds Kanchugarakoppal S. Rangappa
University of Mysore, Manasagangotri, Mysore – 570 006, India Jaco Breytenbach Department of Pharmaceutical Chemistry
North-West University 3 years

6 Optimization of thermal and shock wave damage during selective tissue cell removal using laser pulse shaping
Sarit Kumar Das,

Indian Institute of Technology Madras, Chennai, Tamilnadu – 600036, India Franz-Josef Kahlen
University of Cape Town, Cape Town, South Africa 3 years

Contd..3/-

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(1) (2) (3) (4) (5)

7. Conservation of Indigenous Knowledge on Traditional Medicine. Preventive and Therapeutic Nutrition Practiced in India and South Africa Prof. Kasturi Sen Ray, Tata Institute of Social Sciences, V.N. Purav Marg, deonar
Mumbai - 400088 Myra Taylor, Adjunct University of KwaZulu - Netai Public Health Medicine,

3 years

8 Application of nano composites in space Science Dr. R. Velmurugan
Prof.

Indian Institute of Technology Madras, Chennai -600036, India
Dr. Krishnan Kannu

Prof.

Durban University of Technology, Durban-4000, South Africa 3 years

9 Linear and nonlinear studies of fluctuation phenomena in space and astrophysical plasmas Dr. Satyavir Singh
Associate prof.

Indian Institute of Geomagnetism

Plot No. 5, Sector-18

New Panvel (W),

Navi Mumbai-410218

Prof. R Bharuthram

University of the Western Cape, Modderdam Road,

Belville 7530

South Africa

3 years

10. Finite element model updating of aerostructure using density based fish School Search Sneathish Chakrverty, Prof. National
Institute of Technolgy, Rourkela Tshilidzi Marwala

Prof

University of Johannesburg

South Africa

3 years

11 Multi-wavelength astronomy with the Virtual Observatory Ajit Kembhavi, Prof. Inter University Centre for Astronomy and
Astrophysics, Pune. Patricia Whitelock, Prof, South African Astronomical Observatory, South Africa.

3 years

12 Development of rare-earth ions-metallic nanoparticles hybrid phosphors with Hydro-philic polymer: An application of photocatalysis
for water treatment Avinash Chandra Pandey

Application Center

University of Allahabad

Ajay Kumar Mishra

UJ Nanomaterials Science Research Group, Department of Chemical Technology, University of Johannesburg, (DFC), South Africa 3
years

Contd..4/-

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(1) (2) (3) (4) (5)

13 Green chemistry approaches to the synthesis and functionalization of GaN for use in gas and bio-sensors. Sandip Kumar Dhara Surface and Indira Gandhi Centre for Atomic Research, Kalpakkam, TN-603102, India Neil John Coville Univ of the Witwatersrand, 1 Jan Smuts Avenue, Johannesburg 2050 SA 3 years

14 Production of Synthesis Gas and its Clean Processing by a Multi-Stage Wet Scrubber Prof. B. C. Meikap Department. of Chemical Engineering IIT, Kharagpur-721 302

Prof. Milan Carsky

Professor and Head of School of Chemical Engineering 3 years

15. Green Oxidation Catalysts Based on Gold and Silver Organometallics and Nanoparticles Designed with N-Heterocyclic Carbenes. Chandra Sekhar VASAM, Asstt. Prof. Deptt. of Chemistry, University College Satavahana University, Karimnagr. Sreekanth B. JONNALAGADDA School of Chemistry, University of KwaZulu-Natal Westville Campus, Durban 3 years

16 Indo-South Africa HIV Vaccine Research Collaboration Defining the HIV Antigens required for inclusion in a safe and effective HIV vaccine Prof. V. Chauhan, Director, ICGEB New Delhi Blessed Okele, SA 3 years

17 Mycolic acid Antibody Real-Time Inhibition (MARTI) Serodiagnosis of TB

Prof D Behera, LRS Institute of Tuberculosis & Respiratory Diseases, New Delhi Prof. JA Verschoor University of Pretoria, Pretoria 3 years

18 Novel HIV-1 Integrase Inhibitors Discovery Programme Dr Vibha Tandon, Department of Chemistry, University of Delhi, Delhi, India.

Dr Alexio Capovilla, University of the Witwatersrand, Johannesburg, South Africa. 3 years

2012-13 NIL

Contd..5/-

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2013-14

(1) (2) (3) (4) (5)

S. No Title Indian Coordinator South African Coordinator Duration

1. Elucidating the structural basis and biochemical mechanism of allosteric regulation in cofactor biosynthetic enzymes Prof. Ruchi Anand

Indian Institute of Technology Powai, Mumbai,

Prof. Erick Strauss Stellenbosch University, South Africa 3 years

2. Targeting autophagy for brain cancer drug discovery Dr. Shivananju NanjundaSwamy,

Sri Jayachamarajendra College of Engineering, Mysore

Dr. Ben Loos, Stellenbosch University, South Africa

3 years

3. Optimizing engineered hydrogels for stem cell delivery and differentiation in the heart Prof. Murugan Ramalingam,

Christian Medical College and Hospital, Vellore

Dr. Neil Davies, University of Cape Town 3 years

4. Modification, Characterization and application of naturally occurring biomaterials for the removal of toxic contaminants from industrial wastewater

Dr. Vinod Kumar Gupta, Dr. Ram Manohar Lohia Awadh University Faizabad Dr. Arjun Maity, CRIR, Materials Science and Manufacturing, Pretoria 3 years

5. Role of TGF β in metastasis and biology of breast cancer stem cells (CSC)

Dr. Arindam Bhattacharya, Ballygunge Science College, University of Calcutta Dr. Adrienne L Edkins, Rhodes University 3 years

6. Multi-Wavelength Studies of Accretion Phenomena with ASTROSAT and SALT Prof. K.P Singh, Tata Institute for Fundamental Research, Mumbai Prof. A. H. Buckley, South African Astronomical observatory, SA 3 years

7. Observations and analysis of stars in the Kepler field Dr. Yogesh Chandra Joshi, ARIES, Manora Peak, Nainital

Dr. Chris Engelbrechet, University of Johannesburg, SA 3 years

Contd..6/-

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(1) (2) (3) (4) (5)

8. Pharmacological evaluation of medicinal plants from India and South Africa based on

Indigenous Knowledge for anticancer and antituberculosis potential Dr.S.P.Dhanabal, JSS College of Pharmacy, Ooty Dr.NamritaLall, University of Pretoria 3 years

9. Effect of trace elements on yield and quality parameters of tea (*Camellia sinensis* L. And *Athrixia phylicoides* DC.) as influenced by inorganic and organic amendments

Dr. Tanmoy Karak, Tea Research Association, Dibrugarh, Assam Prof. F. R Kutu, University of Limpopo 3 years

10. Developing environmental friendly packaging materials with essential oils to control the postharvest diseases in mango

Dr. S. PeriyarSelvam, SRM University, Tamilnadu Prof. E. RotimiSadiku, Chemical, Metallurgical and Materials Engineering 3 years

11. CO₂ Conversion to Synthetic Fuel Via Fischer-Tropsch Process Dr. Sreedevi Upadhyayula, Dept. of Chemical Engineering, IIT, Delhi Dr. KalalaJalama,

Dept. of Chemical engineering, University of Johannesburg

3 years

12. New Perspectives to Advance Green Medicinal Chemistry Dr. Raj Kumar Joshi, Dept. of Chemistry, MNIT Jaipur Dr. Gregory Smith, University of Cape Town

3 years

2014-15 NIL
