

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

UNSTARRED QUESTION NO:2839

ANSWERED ON:30.07.2014

STRENGTHENING OF ACADEMICS AND INDUSTRY INTERFACE IN SCIENCE .

Rudy Shri Rajiv Pratap

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

- (a) whether any action plan has been formulated by the Government to strengthen the academics and industry interface in science ;
- (b) if so, the details thereof;
- (c) whether several large scale science projects are being undertaken at various national institutes;
- (d) if so, the details thereof;
- (e) whether the Government is considering to augment investment in this field and if so, the details thereof; and
- (f) the details of the number of research papers published by Indian scientists vis-À-vis world scientists during each of the last three years, country-wise, year-wise?

**Answer**

MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF EARTH SCIENCES (DR. JITENDRA SINGH)

(a) & (b) Government has undertaken several programmes / schemes under various departments to strengthen the academics and industry interface in science. The programmes of some of the key government departments/institutions which engage Universities/ IITs, R&D institutions and industry are listed below:

No. Department /Organisation Scheme / Programme

1. Department of Scientific & Industrial Research

# Under section 35(2AA) of IT Act, corporate industries are eligible to claim 200% tax deduction for sponsored scientific research projects in national laboratories, universities and IITs

# Patent Acquisition and Collaborative Research and Technology Development

2. Council of Scientific & Industrial Research

# New Millennium Indian Technology Leadership Initiative

# Open Source Drug Discovery (OSDD) Programme

3. Department of Science & Technology

# Drugs & Pharmaceuticals Research Programme

4. Department of Biotechnology

# Biotechnology Industry Partnership Programme

# Small Business Innovation Research Initiative

# Contract Research Scheme

5. Indian Council of Medical Research # Programme for development of TB Diagnostics & H1N1 Vaccines

6. Indian Space Research Organisation

# RESPOND (Sponsored Research and Development Programme in the area of space technology)

7. Ministry of New and Renewable Energy

# Programme for Research, Design and Development in New and Renewable Energy

(c) & (d) Several Large Scale Science Projects are being undertaken at several national institutes and R&D organizations with the support of government departments. These include:

Department of Scientific and Industrial Research (DSIR)

# Council of Scientific and Industrial Research (CSIR), autonomous body of DSIR has launched Open Source Drug Discovery (OSDD) Programme, focused at Tuberculosis, has emerged as a new platform for innovation in the domain of affordable healthcare. This CSIR-led 'Team India' consortium with global partnership has more than 4500 researchers from over 100 countries as registered participants.

# CSIR's Solar Energy Initiative – Technologies and Products for Solar energy Utilization through Networks (TAPSUN) has been conceptualized as a mega programme in partnership with Ministry of New and Renewable Energy (MNRE). It is being implemented with a number of complimentary approaches. The programme has created networks of research institutes, academia and industry with an objective to integrate various components of technology development. The programme will play a transformational role in

bringing the benefits of solar energy to the people of India.

#### Department of Atomic Energy (DAE)

- # Indus Synchrotrons at Raja Ramanna Centre for Advanced Technology, Indore;
- # Variable Energy Cyclotron, Super Conducting Cyclotron and Radioactive Ion Beam at Variable Energy Cyclotron Centre, Kolkata;
- # Low Energy High Intensity Proton Accelerator and Electron Beam Centre at Bhabha Atomic Research Centre, Mumbai;
- # High Energy Physics and Detectors at CERN in Switzerland;
- # India based Neutrino Observatory in Theni Dist., Madurai, Tamilnadu; and
- # Facility for Anti Proton Ion Research at Darmstadt, Germany.

Indian Space Research Organisation (ISRO)

- # ASTROSAT – a multi wavelength observatory in Space;
- # Chandrayaan-2 – a unmanned mission to Moon with Lander and rover for in-situ investigations of lunar surface;
- # ADITYA for studies on Heliphsysics; and
- # Mars Orbiter Mission – A technology demonstration mission for reaching the Martian orbit and conduct few scientific experiments.

Defence Research and Development Organisation (DRDO)

- # Programme on Advanced Materials at Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore;
- # Transdisciplinary shock wave research and applications programme at Indian Institute of Science, Bangalore; and
- # DRDO has also established Centres of Excellence at Indian Statistical Institute (ISI), Kolkata for Cryptology, University of Hyderabad for High Energy Materials, Defence Institute of Advanced Technology (DIAT), Pune for Nanotechnology and Indian Institute of Technology Madras for Research & Innovation to undertake large scale science projects.

Ministry of New and Renewable Energy (MNRE)

- # MNRE has established three Test Centres in the area of improved biomass cook stoves at CSIR - Institute of Minerals Materials Technology, Bhubaneswar, Indian Institute of Technology, Delhi and Maharana Pratap University of Agriculture Technology, Udaipur.

Indian Council of Medical Research (ICMR)

- # ICMR is supporting three large scale science projects on Phase-III Clinical Trial with an Intravasal Injectable Male Contraceptive – RISUG, Effect of Non-ionizing Electro Magnetic Field (EMF) on Human Health and Drug Discovery and Development in Reproductive Health at institutions such as All India Institute of Medical Sciences, New Delhi, Jawaharlal Nehru University, New Delhi, Lok Nayak Jai Prakash Hospital, New Delhi and CSIR - Central Drug Research Institute, Lucknow.

(e) The Hon'ble Finance Minister in his budget speech to the Parliament on 10/07/2014 has announced that in order to create a conducive eco-system for the venture capital in the MSME sector, it is proposed to establish a Rs. 10,000 crore fund to act as a catalyst to attract private capital by way of providing equity, quasi equity, soft loans and other risk capital for start-up companies. This fund will promote academic-industry linkage as start-ups have to begun to emerge in research intensive areas like electronics, defense, bio-technology and healthcare.

Also, the Department of Science and Technology has initiated a public private partnership (PPP) scheme called the "Prime Minister's Fellowship Scheme for Doctoral Research" along with the Confederation of Indian Industry (CII) in November 2012, in which up to 100 full-time PhD scholars are given scholarships every year. While the government provides approximately Rs 3 lakh per annum to every candidate, a matching amount is given by industry for a period of four years. Under this scheme, every candidate is required to work with a relevant company on a problem identified by the company. This scheme, till date has supported around 60 PhD projects.

(f) According to latest R&D Statistics 2011-12 published by Department of Science and Technology, the number of research papers published by Indian Scientists vis-à-vis the world scientists, as given in the Science Citation Index (SCI) database during 2008, 2009 & 2010, country-wise, year-wise is given in Annexure.