



## MoU BETWEEN CSIR 4PI and UNIVERSITY OF KASHMIR

THIS MEMORANDUM OF UNDERSTANDING (hereinafter referred to as "MOU") is made and entered into on this 30th day of December Two Thousand Thirteen between:

**University of Kashmir, located at Hazratbal, Srinagar - 190006, J&K, India represented by its Vice Chancellor (hereinafter called "UoK", which expression shall where the context so admits include its successors and permitted assignees) on the first part;**

**AND,**

Council of Scientific and Industrial Research, a society registered under the Societies Registration Act "(XXI of 1860)" having its registered office at Anusandhan Bhavan, 2, Rafi Marg, New Delhi 110 001, India represented through its constituent laboratory CSIR Fourth Paradigm Institute (formerly CSIR Centre for Mathematical Modelling and Computer Simulation) located at National Aerospace Laboratories, Belur campus, Bengaluru, (hereinafter called "CSIR 4PI", which expression shall where the context so admits include its successors and permitted assignees) on the other part.

Hereinafter, both parts are individually referred to as "PARTY" and collectively as "PARTIES" in the MoU.

### 1. Preamble:

Whereas, **University of Kashmir** is a multi-faculty University, imparting instruction in various subjects in the Faculty of Arts, Languages, Natural Sciences, Social Sciences, Education, Commerce, Law, Medicine, Dental Surgery, Engineering, Music and Fine Arts and Non-formal Education; and,

Whereas, CSIR 4PI is center for data intensive research, mathematical modelling and computer simulation under the aegis of CSIR, Government of India presently working in the areas of Solid Earth Modelling, Ocean and Atmosphere Modelling, Network and Cyber security, Nonlinear Dynamical System and Computational Mechanics with a focus on High Performance Computing to R&D in diverse domains including Data Intensive Research and Scientific Computing using Massively Parallel Supercomputers; and

Whereas, Parties agree on the objective of creating a framework for enriching scientific endeavors in mutually agreed fields of research through collaboration in developing and implementing new academic and research programmes and faculty and students exchange. Now therefore, Parties have agreed to come together and have decided to work jointly on the following terms and conditions in certain areas of common interest as listed below:

- Lithosphere Modelling using Broadband Seismology
- Earthquake Hazard and Risk Assessment
- Crustal Deformation Study
- Climate Change and Atmospheric Modelling
- Network and Cyber security
- Nonlinear Dynamics and Computational Mechanics
- High Performance Scientific and Data Intensive Computing

in addition to all other remedies available in law or equity including monetary damages.

**10. FORCE MAJEURE**

Neither Parties shall be held responsible for non-fulfillment of their respective obligations under this MoU due to the exigency of one or more of the Force Majeure events such as, but not limited to, the acts of God, War, Flood, Earthquake, Strikes, Lockouts, Epidemic, Riots, Civil commotions etc. provided on the occurrence and cessation of any such event the Party affected thereby shall give a notice in writing to the other Party within 30 (Thirty) days of such occurrence or cessation. If the Force Majeure conditions continue beyond 6 (six) months, the Parties shall jointly decide about the future course of action.

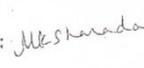
**11. GOVERNING LAWS AND DISPUTES RESOLUTION**

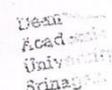
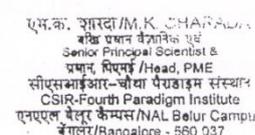
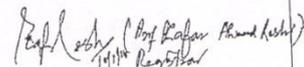
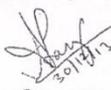
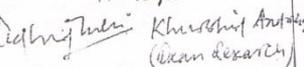
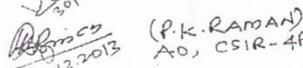
This MoU shall, in all respects, be governed by and construed in all respects in accordance with the laws of the Republic of India.

This MoU is to create a framework for enriching scientific endeavours in mutually agreed fields of research through collaboration in developing and implementing new academic and research programmes and faculty and students exchange. Hence any question, doubt or dispute arising out of the interpretation of any term or usage herein or on the implementation and functioning of the various understandings forming a part of this MoU shall be resolved by the Heads of the two organizations or their authorized representatives for the purpose mentioned herein by discussions and negotiations based on consensus in the spirit of developing and strengthening the mutual relationships. Any unresolved dispute if any, shall be referred to Sole Arbitrator in accordance with Arbitration and Conciliation Act, 1996 and rules framed thereof. Arbitrator shall be appointed on mutual consent of Parties. Arbitration shall be conducted at Bengaluru in English language. The decision of arbitrator so reached shall be final and binding on both the parties.

**9. SEAL OF THE PARTIES**

In witness whereof, the PARTIES represented by their authorized representatives, set forth their hands on this the day, month and year first stated above, agreed and accepted this MoU to be signed in the presence of the following witnesses:

For and on Behalf of UoK	For and on Behalf of CSIR-4PI
Signature: 	Signature: 
Name: <b>A.M. SHAH</b>	Name: <b>M.K. SHARADA</b>

Seal & Designation:   Dean Academics University of Kashmir Srinagar	Seal & Designation:   एम.क. शारदा/M.K. SHARADA सीरि प्रिन्सिपल साइंटिस्ट Senior Principal Scientist & प्रमुख विभाग/Head, PME सीएसआईआर-चौथा पैराडिगम संस्थान CSIR-Fourth Paradigm Institute एनएएल बेलूर कैम्पस/NAL Belur Campus बैंगलूर/Bangalore - 560 037
Witnesses (Name & Signature):  1.  (Prof. Balraj Khundkhar) 14/11/2013 Registrar	Witnesses (Name & Signature):   (I.A. PARVEZ) 20/12/2013
2.  (Khurshid Anwar) Dean Research	2.  (P.K. RAMAN) 20/12/2013 AO, CSIR-4PI



**Memorandum of Understanding**

*between*

**Geological Survey of India**  
*Ministry of Mines*  
*Govt. of India*

*and*

**University of Kashmir,**  
Srinagar

*on*

**Collaboration between Geological Survey of India and  
University of Kashmir on enriching and sharing of  
Geoscientific knowledge**

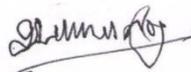
**DECEMBER, 2014**  
**Srinagar**

IF to KU - Vice-Chancellor of University of Kashmir, Hazratbal, Srinagar  
Kashmir, J&K State-19006  
Phone No. 0194- 227-2000 Fax: 0194-2415137

**15. Entire Contract and Amendments**

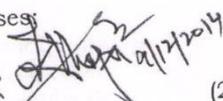
The MoU will be signed along with attached signed addenda and/or subsequent agreements, which will constitute the entire agreement between the GSI and KU. No prior written or oral representations shall be binding and all amendments and/or subsequent agreements shall be in writing and signed by a party of equal position as those of the executing parties hereto.

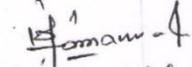
IN WITNESS WHERE OF the parties hereto have duly executed this MoU.  
The .....<sup>9th</sup> day of ..<sup>Dec</sup>....., 2014 (Year Two Thousand Fourteen)

For **Geological Survey of India** by 

Name: G. SHANKAR PAL NIRM  
Title: Dy. Director General, GSI, Jammu

In the presence of Witnesses:

(1) JANAK RAJ  
DIRECTOR  
GSI, Jammu. 

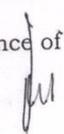
(2) Muneeb Ahmed Mukledan  
Geologist and OIC  
GSI, Srinagar, J&K 

For **University of Kashmir, Srinagar** by

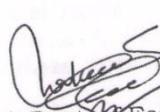
Name: KHURSHID ANDRABI  
Title: Vice-Chancellor  
UNIV OF KASHMIR

KHURSHID ANDRABI  
VICE CHANCELLOR  
UNIV OF KASHMIR

In the presence of Witnesses:

(1)   
Dean, Academic Affairs, KU  
Dr. Ashraf Khan

(2)   
Dean, Research, KU  
Prof. Shakir Javid Ahmad

(3)   
Head, Dept of Earth Sciences, KU  
Prof. SHAKIL A. ROMSHOD

## MEMORANDUM OF UNDERSTANDING (MOU)

### AGREEMENT FOR SCIENTIFIC COOPERATION IN RESEARCH BETWEEN THE INDIAN INSTITUTE OF TROPICAL METEOROLOGY, PUNE, INDIA (An Autonomous Institute under Ministry of Earth Sciences, Govt. of India) AND UNIVERSITY OF KASHMIR, SRINAGAR KASHMIR, INDIA

In view of the common wish to continue relations for scientific collaboration between the university (located at scientifically strategic location) and the research Institution in the fields of mutual interest, the **Indian Institute of Tropical Meteorology, Pune** (hereinafter referred to as **IITM**) and the **University of Kashmir, Srinagar, Kashmir** (hereinafter referred to as **UKSK**), in harmony with the spirit of scientific collaboration within the country and to spread front line atmospheric sciences research in Indian universities that characterises relations between them, have agreed to sign the following:

#### AGREEMENT FOR SCIENTIFIC AND CULTURAL COLLABORATION

(Objective)

##### Article 1

The UKSK and the IITM will endeavour to enhance research activities by supporting the other Party's research efforts under the principle of respecting mutual autonomy. In particular both Parties will contribute to the development of integrated modelling and monitoring systems for effective air pollution assessment and applied research both at regional and national scale.

(Areas for and contents of collaboration)

##### Article 2

Areas for collaboration between the two Parties will involve integrated monitoring and assessment modelling for air quality evaluation, impacts and planning, including:

- Regular monitoring of all major air pollutants along with meteorological fields,
- Development of pollutant emission inventories,
- Observational data assimilation,
- 3-D simulation of chemical and transport phenomena in the boundary layer and troposphere,
- secondary pollutants (ozone and fine particulates) assessment at regional scale,
- forecast and prevention of critical and severe population exposures,
- evaluation of impact of air pollution on Health and climate changes
- Optimization of air pollution mitigation strategies.

(Exchange of research staff)

##### Article 3

The exchange is defined principally in the following ways:

- a) The Parties will agree to the reciprocal exchange of professors, scientists and Ph.D. students for study visits, research, conferences, and will favour the exchange of scientific experience and knowledge.
- b) The Parties will share information about conferences, symposium and seminars organised at national level.
- c) The Parties will provide the basic infrastructural facilities to the visiting researchers for carrying out research activity in their University /institute.

(Administrative Aspects and Infrastructure)

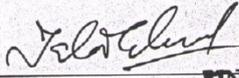
**Article 4**

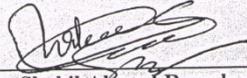
- The Air pollution measurement System (includes expensive and sophisticated scientific instruments, UPS, and all other accessories) will be fully sponsored, procured by IITM. The IITM will also install and commission it in a suitable location at UKSK and will also maintain it regularly by deputing one contract engineer. All the instruments provided by IITM and the data generated will always remain the property of IITM and will be returnable after the expiry of MOU. The scientific data product of the project may be utilized by both the parties in mutual collaboration for maximum scientific benefit and IITM will have lead in reports and publications. Dissemination of the data will remain the prerogative of IITM.
- The UKSK will provide all possible infrastructural facilities (in kind) like a well furnished laboratory room of a minimum size of 5 x 5 mt<sup>2</sup> with open space, adequate raw power supply of around 5KW, furniture, etc in a suitable location in the campus which may be decided mutually.
- Department of Geology, Geophysics and Geo-informatics, UKSK, will act as collaborating Department to look after this project locally and one scientist from this department will act as local coordinator responsible for administrative and scientific control for this project from UKSK.
- It is agreed that at least two Junior research Fellows (JRF) are selected and sponsored by UKSK from their internal system for this project which may eventually lead them to complete their Ph.D. This is envisaged to enhance the human resource development in the subject area of air quality and climate change which will further spread the scientific message in national capacity building.
- Project students can be registered for Ph.D. degree at UKSK or Pune University under the joint guide-ship of the program Director of IITM (Dr. G. Beig) and UKSK. To facilitate the arrangement, Program Director from IITM shall be recognized by UKSK as Ph.D. guide.

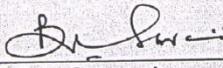
(Term of the agreement)

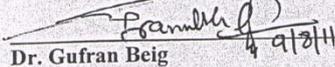
**Article 5**

The agreement will come into act with the signatures of the appointed representatives of the two Parties & will have duration of five years. IITM reserves the right to terminate the agreement. Present agreement may be renewed for additional terms upon the mutual written approval from both Parties.

  
VICE CHANCELLOR  
UNIVERSITY OF KASHMIR  
Srinagar  
Prof. Talat Ahmad  
Vice-Chancellor, University of Kashmir, Srinagar, Kashmir

  
HOD  
Geology & Geophysics  
University of Kashmir, Srinagar  
Dr. Shakil Ahmad Romshoo  
Responsible Scientist, Head, Department of Geology, Geophysics and Geo-informatics, UKSK

  
Prof. B. N. Goswami  
Director, Indian Institute of Tropical Meteorology, Pune  
बी. एन. गोस्वामी  
B. N. GOSWAMI  
निदेशक  
DIRECTOR  
भारतीय उष्णदेशीय मौसम विज्ञान संस्थान  
Indian Institute of Tropical Meteorology  
पुणे - 411 008.  
PUNE - 411 008.

  
Dr. Gufran Beig  
Program Director, Indian Institute of Tropical Meteorology, Pune.

**Dr. Gufran Beig**  
Scientist-F  
Indian Institute of Tropical Meteorology  
Pune - 411 008, India  
MoES (Govt. of India)

**Endorsement at the HUC Annual Meeting  
New Delhi, 26<sup>th</sup> October 2016**

**New Members, starting 2016**

**Full Members**

Date: \_\_\_\_\_

**Jun Sheng, Mr**  
President  
YUNNAN AGRICULTURAL UNIVERSITY  
China

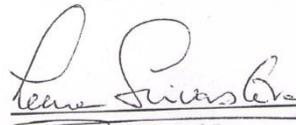
Date: \_\_\_\_\_

**Jiang Zhaogang, Senior Economist**  
President  
SOUTHWEST FORESTRY UNIVERSITY  
China



Date: 26/10/16

**Khurshid Iqbal Andrabi, PhD Professor**  
Vice Chancellor  
KASHMIR UNIVERSITY  
India



Date: 26/10/16

**Leena Srivastava, PhD**  
Vice Chancellor  
TERI UNIVERSITY  
India

Date: \_\_\_\_\_

**Myo Kywe, PhD Professor**  
Rector  
YEZIN AGRICULTURAL UNIVERSITY  
Myanmar

Date: \_\_\_\_\_

**Chiranjibi Prasad Sharma Banstola, PhD Professor**  
Vice Chancellor  
POKHARA UNIVERSITY  
Nepal

## MEMORANDUM OF UNDERSTANDING

Between

University Of Kashmir, Srinagar

AND

CSIR- National Geophysical Research Institute, Hyderabad

The University of Kashmir, Srinagar, and CSIR- National Geophysical Research Institute, Hyderabad ( hereafter called " Organizations") sign this Memorandum of Understanding (MOU) today on August 25, 2012 in the presence of Jenab Omar Abdullah, Hon'ble Chief Minister, Jammu and Kashmir with the objective of developing a Centre for Geophysical Education and Research (CeGER)- specific to Earthquake Hazard and Hydrological studies, at the University of Kashmir. This memorandum will provide a framework for enriching scientific endeavors in the above fields through collaboration in developing new academic and research programmes and faculty and students exchange.

### *I. Academic:*

- The two Organizations shall collaborate in developing new academic programmes and enrich existing ones towards addressing emerging issues requiring knowledge and expertise.
- Collaboration shall be encouraged between various academic Departments/ groups of the two Organizations to help each other mutually advance the content and level of academic programmes.

### *II. Research:*

The two Organizations shall collaborate with each other in the following fields towards the promotion of high quality research work:

- Formulate and implement Joint Research Projects and allow joint supervision of research programmes (Ph.D.).
- Design and Conduct conferences/workshops/seminars jointly with active participation of faculty members from the two Organizations.

### *III. Faculty Exchange:*

**MEMORANDUM OF UNDERSTANDING (MoU)  
BETWEEN  
BHABHA ATOMIC RESEARCH CENTRE (BARC),  
DEPARTMENT OF ATOMIC ENERGY (DAE), MUMBAI  
AND  
DEPARTMENT OF EARTH SCIENCES  
UNIVERSITY OF KASHMIR  
SRINAGAR  
FOR THE XII<sup>th</sup> PLAN PROJECT ON**

**NATIONWIDE ENVIRONMENTAL GAMMA RADIATION MONITORING  
USING TLDS**

**THE MEMORANDUM OF UNDERSTANDING**

This Memorandum of Understanding (MoU) made and entered into on this 05<sup>th</sup> day of November in the year 2014 between Bhabha Atomic Research Centre (BARC), Mumbai - 400 085, Department of Atomic Energy (DAE), Government of India (hereafter called BARC which expression shall include its successors-in interest and assigns) of the one part.

AND

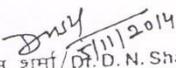
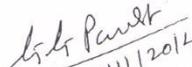
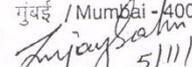
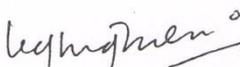
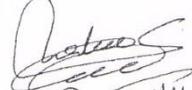
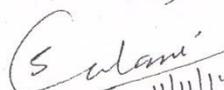
Department of Earth Sciences, University of Kashmir (UoK), Srinagar (hereinafter called UoK, which expression shall include its successors-in-interest and assigns) on the other part.

**PREAMBLE**

Whereas University of Kashmir at its Department Earth Sciences has expertise in the field of environmental sampling and analysis for various conventional and radioactive constituents in various matrices of environment.

Whereas BARC, is a premier multidisciplinary R&D organization engaged in research with the objective of generating knowledge and techniques for nuclear power production, advancement of science, and needs data on environmental gamma radiation levels for Jammu & Kashmir State.

In witness whereof, the parties have signed this memorandum of understanding and affixed their respective seals on the date first noted above

BARC	UoK
<p><b>Signed, sealed and Delivered</b></p> <p><b>For and on behalf of BARC, Trombay, Mumbai – 400 085</b></p> <p>Signature:  5/11/2014            डा. डी. एन. शर्मा / Dr. D. N. Sharma            निदेशक / Director            स्वास्थ्य, परमाणु एवं पर्यावरण समूह / H.S. &amp; E. Group            भारत सरकार / Government of India            मुंबई / Mumbai - 400 085</p> <p>Name :            डा. डी. एन. शर्मा / Dr. D. N. Sharma            निदेशक / Director            स्वास्थ्य, परमाणु एवं पर्यावरण समूह / H.S. &amp; E. Group            भारत सरकार / Government of India            मुंबई / Mumbai - 400 085</p> <p>Designation: <b>Director, Health Safety &amp; Environment Group BARC, Mumbai</b></p> <p>Place: Date:</p> <p>Witness-1:  5/11/2014            डॉ. (श्रीमती) जी. जी. पंडित / DR. (SMT.) G.G. Pandit            अध्यक्ष, ई. एम. ए. एस. / Head, E.M.A.S.            भा. प. अ. के. / B.A.R.C.            भारत सरकार / Government of India            मुंबई / Mumbai - 400 085.</p> <p>Witness-2:  5/11/2014            वैज्ञानिक अधिकारी / Scientific Officer            भारत सरकार / Government of India            ई. एम. ए. एस. / E.M.A.S.            भाभा परमाणु अनुसंधान केंद्र  <b>Bhabha Atomic Research Centre</b>            मुंबई / Mumbai - 400 085</p>	<p><b>Signed, sealed and Delivered</b></p> <p><b>For and on behalf of UoK, Hazratbal Srinagar-190006</b></p> <p>Signature:  11/11/14            Vice Chancellor            University of Kashmir            Srinagar</p> <p>Name : Prof. Khurshid Andrabi</p> <p>Designation: <b>Vice Chancellor University of Kashmir Srinagar-J&amp;K</b></p> <p>Place: Srinagar Date:</p> <p>Witness-1:  11/11/14            Mr. Shake A Roshan            HOD, Earth Sciences            Head &amp; Professor            PS Department of Earth            University of Kashmir</p> <p>Witness-2:  11/11/14            Associate Professor            PS Department of Earth Sciences            University of Kashmir            Srinagar-190006</p>