



भारतीय उष्णदेशीय मौसम विज्ञान संस्थान
(पृथ्वी विज्ञान मंत्रालय का एक स्वायत्त संस्थान, भारत सरकार के अधीन)
डॉ. होमी भाभा मार्ग, पाषाण पुणे - ४११००८

INDIAN INSTITUTE OF TROPICAL METEOROLOGY

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Dr. Gufran Beig
Scientist-G and
Project Director, SAFAR

SPEED-POST

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Date: 15th July 2016

18 JUL 2016

To;
Dr. Dhruv Sen Singh
Professor
Centre of Advanced Study in Geology
University of Lucknow,
Lucknow-226007 (UP)

Subject: MOU for scientific cooperation.

Dear Prof. Singh;

Enclosed please find two2 copies of the MoU duly signed by myself and Director, IITM for signature of VC and yourself. Once done, please send it back to me as soon as possible to further advance the project.

Thanking you.

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Yours Sincerely,

(Gufran Beig)

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 LUCKNOW UNIVERSITY, LUCKNOW, 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 **LUCKNOW UNIVERSITY, LUCKNOW** (hereinafter referred to as **LU**), 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 **LU** 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,
- 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)

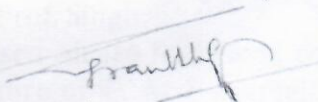
Article 4

- 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 LU and will also maintain it regularly by deputing one contract engineer. All the instruments provided by IITM 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. Dissemination of the data will remain the prerogative of IITM.
- The LU will provide all possible infrastructural facilities (in kind) like a well furnished laboratory room of a minimum size of 15 x 15 ft² with open space, adequate raw power supply of around 7KW, furniture, etc in a suitable location in the campus which may be decided mutually.
- Centre of Advanced Study in Geology /Department of Physics, LU will act as collaborating Department to look after this project locally and Prof. D.S. Singh, from the centre will act as local coordinator responsible for scientific as well as administrative work from LU.
- It is agreed that two Junior Research Fellows (JRF) will be assigned by LU from their internal resources 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 LU under the joint guide-ship of the project Director of IITM (G. Beig) and LU. To facilitate the arrangement, Project Director of this project from IITM shall be recognized by LU 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.

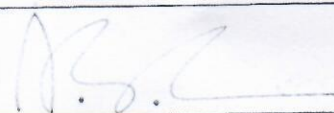

Dr. Gufran Beig

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Prof. D.S. Singh,

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Centre of Advanced Study in Geology
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Prof. S. B. Nimse

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