



University of
TEHRAN

MEMORANDUM OF UNDERSTANDING

BETWEEN

South African National Space Agency (SANSA), South Africa

AND

Institute of Geophysics of University of Tehran (IGUT), IRAN

South African National Space Agency (SANSA) and the Institute of Geophysics of University of Tehran (IGUT) wishing to intensify the existing cooperative relations between the two institutions, especially to develop academic and cultural interchanges through mutual assistance in the areas of education and research, agree as follows:

1. Participating Parties

The participating parties will be **South African National Space Agency (SANSA)** and **the Institute of Geophysics of University of Tehran (IGUT)**.

2. Area

The area of cooperation includes, subject to mutual consent, any program offered by either of the participating parties as felt desirable and feasible on either side to foster and develop the cooperative relationship between the two institutions.

3. Nature and Methods of Collaboration

The nature of this Memorandum of Understanding is to establish a non-binding cooperation framework in international law, that does not bind their respective countries or principals. Assistance shall be carried out, subject to availability of funds that will be detailed in separate individual agreement(s) and the approval of each institution, through such activities or programs as:

3.1. The following areas have been identified as suitable for collaboration between the two Participants:

3.1.1. Lightning research: The lightening research started in the space physics group (IGUT) in recent years and has resulted in a deep understanding of meteorological indices and lighting location prediction in Tehran area. Recent work by Dr. Kosch has also resulted in the first ground-based recording of sprite events over southern Africa. Sharing the knowledge and data to be used in lightning research in Iran is the goal of future collaboration.

3.1.2. In-situ space rocket measurements: This part of the agreement is based on the recent progress in the development of payloads to fly

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on rockets and CubeSat for local measurements of the parameters associated with the near-earth space environment. The payloads and instruments which are currently under development at IGUT are multi-frequency HF beacon and Plasma Impedance Probe (PIP). IGUT is currently building a microwave plasma chamber to be used to simulate active space experiments in the laboratory scale. Further collaboration to run experiments, testing space-based payload and sharing ideas are the basis of this agreement.

3.1.3. Active space experiments: This part of the agreement focuses on the future collaboration to conduct experiments at EISCAT facility in Norway in the field of active space experiments using high-power radio-waves. Applying for experiment time through EISCAT free competitive time, exchanging ideas, and sharing model results for remote sensing of PMSE/PMWE (polar mesospheric summer/winter echoes) source region as well as stimulated electromagnetic emission (SEE) observations will be considered in the future as a part of this agreement.

3.1.4. Joint meeting and conference: Mutual assistance to hold space science related conferences and scientific meetings in Iran/South Africa with a collaboration of SANSA/IGUT will be a long term goal of this agreement.

Each institution shall facilitate the joint co-authored publication of books, chapters and research papers in recognised peer-reviewed outlets and journals.

The terms of such mutual assistance and necessary budget for each program and activities shall be mutually discussed and agreed upon in writing by both parties prior to the initiation of the particular program or activity, and such program and activity shall be negotiated on a mutual bases.

4. Intellectual Property

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The disposition of intellectual property created by the participating parties in performance of this Memorandum of Understanding will be guided by that Party's applicable policies and the principles outlined in paragraphs 5, 6, and 7 hereunder.

5. Disclosure

The participating parties will disclose Intellectual Property from one to another to facilitate performance of the research and training activities of this Memorandum of Understanding and to determine appropriate measures to be taken regarding the Intellectual Property.

6. Ownership

Intellectual Property created in performance of this Memorandum of Understanding ("Intellectual Property") shall be owned in accordance with the policies and procedures of the party or the parties whose personnel created such Intellectual Property. Ownership of joint developed Intellectual Property created in performance of this Memorandum of Understanding shall be agreed upon by the parties and detailed in separate individual agreement(s) or intellectual property agreement(s).

7. Right to Use

Each participating party will have a non-exclusive, royalty-free license to use the other participating party's Intellectual Property (a) in performance of the Memorandum of Understanding activities, and (b) for research and teaching use. Any other use will be subject to the negotiation of a license agreement with the owners of the subject Intellectual Property.

8. Principles

Both parties assert that participants under this Memorandum of Understanding will be selected on the bases of the merit without regard to race, national or ethnic origin, color, religion, age, sex, marital status or physical handicap. **South African National Space Agency (SANSA)** and **University of Tehran** will each accept the participants selected by the other party if mutually acceptable academic and/or professional qualifications and standards are met. All participants will be treated in the same non-discriminatory manner in carrying out the provisions of this Memorandum of Understanding, subject to the

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provision of the policies and requirements of each of the institutions. Any violation of these Principles will be dealt with under clause 9 – Settlement of Disputes.

9. Settlement of Disputes

Any dispute arising out or related to the interpretation or application of the present Agreement shall be settled amicably by negotiations at the appropriate management level of the Parties. If the management level referred to herein is unable to reach a resolution, the dispute will then be referred to the Head of IGUT and the Chief Executive Officer of SANSA or their designees, for final resolution.

10. Effective Date and Length of Memorandum of Understanding

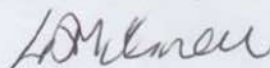
This Memorandum of Understanding will remain in force for a period of five years subject to the availability of funds, and any amendment and/or modification of the Memorandum of Understanding shall be agreed upon by the parties and shall be in writing through an addendum.

Either party reserves the right to terminate this Memorandum of Understanding upon six months written notice to the other.

This Memorandum of Understanding shall take effect on the date of the last signing party.

For South African National Space Agency
(SANSA)

Dr Lee-Anne McKinnell

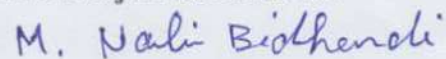


Managing Director

Date: 1/8/2019

For Institute of Geophysics, University of
Tehran (IGUT)

Prof. Majid Nabi-Bidhendi



Head of IGUT

Date: 24 July 2019

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