

Memorandum of Understanding
between
The Pennsylvania State University, PA, USA,
and
Geophysical Institute of Peru, Lima, Peru

Article 1: Purpose

- 1.1 This Memorandum of Understanding ("MOU"), effective as of the date of the last signatory hereto ("Effective Date"), is by and between **The Pennsylvania State University** ("PSU") and **The Geophysical Institute of Peru** ("IGP"). Collectively PSU and IGP shall be referred to as the "Parties".
- 1.2 This MOU memorializes the intent of the Parties to begin a cooperative research effort (the "Project") to: (a) bolster scientific investigation of the earth's middle and upper atmosphere in a collaborative manner; (b) acknowledge joint responsibilities of the Parties as specified herein; (c) provide a framework for further potential scientific developments between the Parties; and (d) acknowledge the nonprofit nature of this research collaboration and the equipment investiture of the Parties as detailed herein.
- 1.3 The Parties' cooperative research effort will initially include PSU'S coordination of the relocation of the following equipment (collectively "CIRI" Instrumentation) owned by PSU to Huancayo, Peru: (a) Cognitive Imaging Radar Interferometry ("CIRI") system; (b) Coherent Atmospheric Passive Radar Imager (CAPRI); and (c) available supporting CIRI equipment and instruments (henceforth referred to as the "CIRI instrumentation"). After relocation and implementation, the Parties intend to use the CIRI Instrumentation to take continuous 24-hour coherent radar observations of the equatorial ionosphere for a period of at least three (3) years. This data set will be used to study the nature of the meteors, electrojet, 150km echoes, and the onset and development of equatorial spread-F.
- 1.4 The Parties designate the following representatives as their Principal Investigator(s) responsible for implementation of the Project: Julio Urbina (PSU); Ron Woodman and/or Marco Milla (IGP).



Article 2: Responsibilities of PSU

- 2.1 PSU will use best efforts and available resources to perform the following tasks:
- 2.2 To operate the CIRI Instrumentation when it is completed in Huancayo, Peru for an initial period of three (3) years;;
- 2.3 To provide for CIRI Instrumentation installation costs (preparation of the field, electrical connections and grounding, lightning protection and other miscellaneous system installation costs)
- 2.4 To provide for CIRI Instrumentation operation costs (including electrical power, broadband satellite internet connection/communication, maintenance trips, and other operation costs) with available funds from research grants at PSU up to a total of six thousands dollars (\$6000) per

year. (The \$6000 per year is subject to availability of funds from NSF grants and funds will be provided via a subaward agreement to IGP from PSU.)

- 2.5 To discuss with the Parties the extension of the Project beginning after the third (3rd) year and the opportunity for PSU graduate students Karim Kuyeng and Freddy Galindo (former Jicamarca engineers) to engage in research activities and/or engineering solutions related to support and/or extend CIRI instrumentation. If needed, a qualified IGP graduate student and/or engineer could begin training at PSU commencing in/or about Fall 2014.
- 2.6 To bear the entire risk of all loss, injury, theft, destruction and/or damage to and/or caused by the CIRI Instrumentation during the term of this MOU (or any extension hereof) and to maintain adequate property and liability insurance covering all potential claims arising out of the same unless due to the negligence of the IGP;
- 2.7 To arrange at PSU's own cost the return of the CIRI Instrumentation to PSU at the termination of this MOU and/or the otherwise disposition or transfer of ownership of the same at such time.

Article 3: Responsibilities of IGP

- 3.1 IGP will use best efforts and available resources to perform the following tasks:
- 3.2 To lead the efforts necessary to pass the CIRI Instrumentation through Peruvian Customs (using funds to be made available by PSU promptly after the Effective Date via a subaward agreement);
- 3.3 To lead the efforts associated with transporting the CIRI Instrumentation from Lima, Peru to Huancayo, Peru (using funds to be made available by PSU promptly after the Effective Date via a subaward agreement);
- 3.4 To assist in the initial setup of the CIRI Instrumentation, IGP engineers and technician will participate directly in the installation of the equipment and occasional troubleshooting (though not at the detriment to other IGP projects); and
- 3.5 Creation of an IGP account (for use by PSU) to support the Project and the CIRI Instrumentation (using funds to be made available by PSU promptly after the Effective Date via a subaward agreement).



Article 4: Rights And Sharing Of Data

- 4.1 After installing the CIRI Instrumentation and during the term of this MOU, the Parties shall jointly share and own on a non-exclusive basis all data derived from use of the same.
- 4.2 Prior to any public release of Project data, each Party agrees to furnish the other Parties with copies of the same at least sixty (60) days in advance so as to permit the other Parties to: (a) make written comments; (b) object in writing because there is patentable subject matter needing protection; or (c) because of an inadvertent disclosure of solely owned confidential information of a non-publishing Party. Each Party shall provide such commentary within thirty (30) days of receiving a proposed public release or forever waive its rights in such regard.
- 4.3 In the event that a Party makes a timely objection to a proposed public release due to patentable subject matter contained within the same, the publishing Party shall refrain from making such

public release for thirty (30) days from the date of receipt of such objection in order for patent applications to be filed.

- 4.4 In the event that a timely objection is made due to confidential and/or proprietary information belonging to a non-publishing Party being contained within the public release, the publishing Party agrees to remove such information. All Parties will cooperate to insure that nothing will be disclosed or done that will interfere with or jeopardize the patent rights of the other Parties.
- 4.5 Notwithstanding the above, all Parties agree to jointly collaborate on issues of scientific interest arising out of the Project in a mutually constructive manner, including joint-authorships on scientific papers and collaborative development of Equatorial Aeronomy in Peru.

Article 5: Other Issues

- 5.1 The Parties recognize that this MOU may be superceded by a more formal agreement between the Parties along with any amendments and/or modifications thereto setting forth contractual terms governing the conduct of the Parties with respect to performing the specific requirements of the Project, however any such formal agreement, amendment and/or modification must be agreed to in writing by both Parties.

- 5.2 The Parties acknowledge that the issues of confidentiality, if applicable, shall be set out in a separately signed subsequent Proprietary Information and/or Non-Disclosure Agreement to the extent required (the terms of which may be made to survive termination of this MOU).

The Parties recognize that the pre-existing proprietary information and materials of each Party shall remain the property of that Party throughout and subsequent to this MOU.

The term of this MOU shall be three (3) years from the Effective Date unless terminated by any Party upon sixty (60) days prior written notice to the other Parties. .

- 5.6 Any issue between the Parties related to this MOU shall be resolved according to the laws of the USA. Any and all claims, disputes or controversies arising under, out of, or in connection with this Agreement, which the parties shall be unable to resolve within sixty (60) days, shall be mediated in good faith. The party raising such dispute shall promptly advise the other party of such claim, dispute or controversy in a writing which describes in reasonable detail the nature of such dispute. By not later than five (5) business days after the recipient has received such notice of dispute, each party shall have selected for itself a representative who shall have the authority to bind such party, and shall additionally have advised the other party in writing of the name and title of such representative. By not later than ten (10) business days after the date of such notice of dispute, the party against whom the dispute shall be raised shall select a mediation firm in Pennsylvania and such representatives shall schedule a date with such firm for a mediation hearing not to exceed one (1) day in length, and less where applicable. The parties shall enter into good faith mediation and shall share the costs equally. If the representatives of the parties have not been able to resolve the dispute within fifteen (15) business days after such mediation hearing, the parties shall have the right to pursue any other remedies legally available to resolve such dispute in either the Courts of the Common Pleas of Centre County of Pennsylvania or in the United States District Court for the Middle District of Pennsylvania, to whose jurisdiction for such purposes PSU and IGP each hereby irrevocably consents and submits. Notwithstanding the foregoing, nothing in this clause shall be construed to waive any rights or timely performance of any obligations existing under this Research Agreement.



- 5.7 Each Party shall retain all proprietary rights, title and interest in and to all of its preexisting intellectual property and/or copyrightable materials, including all improvements, modifications or adaptations to the same.
- 5.8 Ownership of any intellectual property or copyrightable materials created as a result the Parties' Project technological collaborations shall vest in the Party whose personnel conceived the subject matter and/or first actually reduced the subject matter to practice, and such Party may perfect legal protection therein in its own name and at its own expense. Jointly made intellectual property or copyrightable material shall be jointly owned by the Parties.
- 5.9 Each Party agrees to comply and to reasonably assist the other in complying with applicable U.S. and/or Peruvian laws, rules and regulations as they apply to this MOU or the Project, including specifically, those applicable laws and regulations of the U.S. governing or limiting the import, export or re-export of controlled technical data or commodities. Nothing contained herein shall obligated either party to obtain any licenses or other approvals for the export or import of any controlled technical data or commodities, if, in the opinion of such party, the cost or administrative burden to do so is prohibitive. Each party shall remain solely responsible for its own compliance with U.S. export or import laws or regulations.
- 5.10 This MOU does not create a joint venture, partnership, employment relationship, or other agency relationship between the Parties. No Party is authorized or empowered to act as agent for the other Parties for any purpose and neither shall be bound by the act of the other.
- 5.11 No Party will be deemed in default of this MOU to the extent that performance of its obligations or attempts to cure any breach are delayed or prevented by reason of any act of God, fire, natural disaster, accident, act of government, or an act that is beyond the reasonable control of such Party.

The undersigned hereby consent and agree to the contents of this MOU:

THE PENNSYLVANIA STATE UNIVERSITY

(print) John W. Hanold (date) 05/29/2014
(signature) *John W. Hanold*
(title) Interim Director, Office of Sponsored Programs

GEOPHYSICAL INSTITUTE OF PERU

(print) RONALD WOODMAN (date) 5/19/2014
(signature) *Ronald Woodman*
(title) Presidente Ejecutivo

