Latinamerican Association of Space Geophysics

Asociación Latinoamericana de Geofísica Espacial

Associação Latino-americana de Geofísica Espacial

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Ciencia hay una sola y comunidad científica una sola.

Juan G. Roederer (Cuba 1993)

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ALAGE

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1. **XI COLAGE (Eleventh Latin American Conference on Space Geophysics)**

1.1 XI COLAGE REPORT

During the 16th to the 20th of April, 2018, Buenos Aires welcomed the Eleventh Latin American Conference on Space Geophysics (XI Congreso Latinoamericano de Geofísica Espacial or 'XI COLAGE', http://www.iafe.uba.ar/u/colage11/). This conference brought together researchers and students from different Space Geophysics disciplines, such as Heliosphere, Cosmic Ray, Sun-Earth connections, Magnetosphere, Ionosphere, Neutral Upper Atmosphere, Space Weather, Solar Physics, Space Physics, and Nonlinear Processes in Space Geophysics.

Latin America has shown to have several research groups that have made significant advances in Space Geophysics, including theoretical, numerical and experimental contributions, as well as collaborations in scientific campaigns as part of international programs. This conference was a great opportunity to have the scientific community gather together, share their most recent findings and promote collaborations among researchers.

The XI Organizational Committees were:

Scientific Organizational Committee:
Dr. Marcos Machado (ALAGE President), Argentina.
Dr. Abraham Chian (ALAGe International Secretary),Brazil.
Dr. Hernán Asorey, Colombia.
Alisson Dal Lago, Brazil.
Daniel Gómez, Argentina.
Marco Milla, Perú.
Local Organizational Committee:
César Bertucci.
Hebe Cremades.
Sergio Dasso.
Pablo Dmitruk.
Daniel Gómez (Chair).
Marcelo López Fuentes.
Cristina Mandrini
Collaborators: Maria Cambon, Nahuel Andres, Mauro Fontana, Carlos Gonzalez, Cecilia Mac Cormack, Vanina Lanabere, Diego Lloveras, Fernando Lopez, Rodrigo Lugones, Federico Nuevo, Mariano Poisson, Norberto Romanelli.

The conference received around 160 attendees and welcomed the participation of the invited keynote speakers Dr. Juan Roederer (University of Alaska Fairbanks and University of Colorado), Dr. William Matthaeus (University of Delaware) and Dr. Stephen White (Air Force Research Laboratory, USA).

Keynote Talks:

- Juan Roederer: 60 Years of Radiation Belt Physics
- William Matthaeus: How do weakly collisional plasmas dissipate?
- Stephen White: Solar science with the Atacama LargeMillimeter/submillimeter Array

Juan Roederer: 60 Years of Radiation Belt Physics

During the conference, 198 papers were presented, 68 orally and 130 as poster presentations, distributed among seven sessions: Solar Physics, Solar Wind, Planetary Magnetospheres, Cosmic Rays, Ionosphere, and the Upper Atmosphere, Plasma Physics and Nonlinear Processes in Space Geophysics, and Space Weather.

This conference bestowed a great opportunity for countries with space weather centers to meet and exchange experiences and lessons learned on regional operations. Thus, on the 20th of April, the first Space Weather Predictors Meeting (Argentina-Brazil-México) took place and a joint briefing was presented. This activity is in alignment with the original spirit of ALAGE, which is to enhance Latin American collaborations.

Group Photo: XI COLADE, Buenos Aires, 2018.

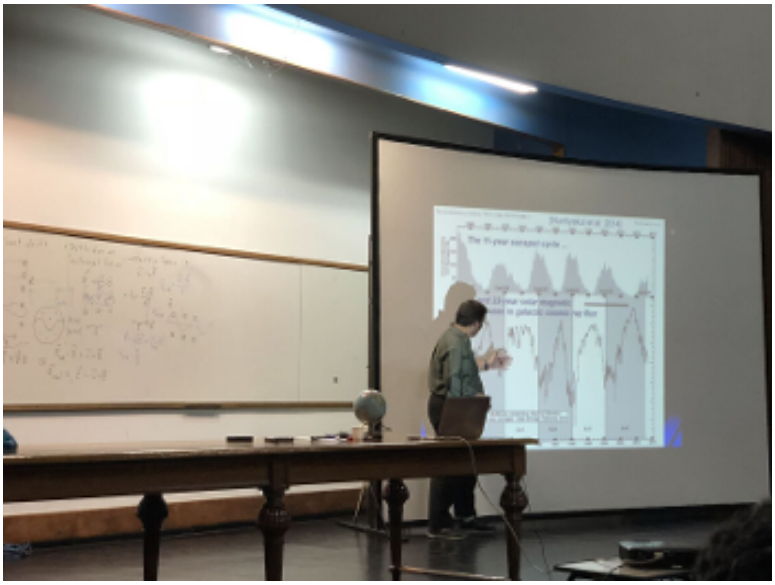
Fraternization of forecasters attending the event.

Students and young scientists played an important role in attending the Latin American School on Data Analysis and Simulations for Space Physics that took place the week after the XI COLAGE. From the 23rd to the 26th of April, students had the opportunity to attend to lectures given by world-renowned scientists from different areas of Space Geophysics.

The topics covered by the school and its lecturers were:

- Planetary Magnetospheres, Dr. Frances Bagenal (University of Colorado, USA)
- Particle acceleration and shocks, Dr. David Ruffolo (Mahidol University, Thailand)
- Turbulence in the Solar Wind, Dr. William H. Matthaeus (University of Delaware, USA)
- Space Weather, Dr. Clezio DeNardin (INPE, Brasil)

There were a total of 60 attendees at the school, 23 were fully financially supported while 15 were partially. Presentations given by the lecturers are available at http://bit.ly/COLAGE2018School

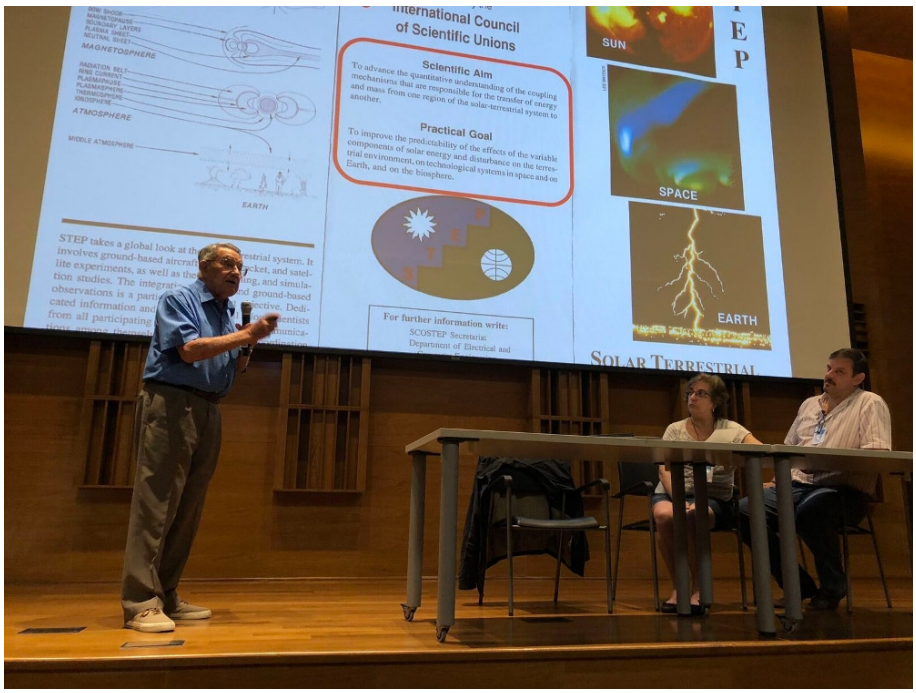


For the first time in COLAGE, a panel about ‘New Programs in the Sun-Earth system’ took place. The main goal was to engage the scientific community of ALAGE to share its views and expertise towards acquiring new knowledge and input for defining future Space Geophysics scientific research programs. This activity in alignment with the Call for Feedback effort that a committee formed by SCOSTEP is making to determine its new scientific program (NSP), following the completion of the current VarSITI program at the end of 2018.

This COLAGE panel was organized by Dr. Adriana Gulisano (UBA-IAA), Dr. Ana Elías (UNT-CONICET), Dr. María Graciela Molina (UNT-CONICET) and Dr. Sergio Dasso (UBA-CONICET) on behalf of the Latin American Association of Space Geophysics (ALAGE). Three recognized Latin American experts in complementary fields were invited to present their vision toward obtaining a roadmap and identifying the highest scientific priorities related to main research areas that include theoretical and numerical studies, ground-based and space data analysis, operational space weather, instrumentation and human resources training among others.

Dr. Juan Roederer (University of Alaska Fairbanks and University of Colorado), Dr.

Mandrini, Cristina (IAFE, UBA-CONICET), and Dr. De Nardini, Clezio (INPE) shared their view and analyzed several aspects about the future in space research in Latin America.



Dr. Roederer pointed out the importance of strengthening basic physics research while Dr. De Nardini emphasized the need to boost human-resources training. Dr. Mandrini showed the state-of-the-art in international efforts within the scientific community aligned to the aims of the panel. She also stressed out the importance of awareness about space weather from decision institutions such as governments.

Important questions and discussions took place between the scientific community present at the panel. Some of the exposed ideas can be summarized as the following:

- Cosmic ray stations are an important base for space physics studies.
- Support infrastructure, data storage, and communications. New instrumentation deployment focusing on coordinated and extended coverage is needed.
- Enhancing technical and scientific staff training using modern pedagogical techniques.
- Training young scientists and promoting early collaboration among them.
- Collaboration within Latin America has to be enhanced through shared efforts in joint research projects, and by supporting scientists and students mobility.
- Enhancing communication and general outreach to the society, especially at different education levels.

These ideas can be seen as a starting point to outline and coordinate cross-disciplinary actions for future science-based international collaborations, and to elaborate recommendations for research funders in the coming years.

In closing, the General Assembly of ALAGE gathered members and authorities to report the association’s next steps, to discuss the future of the organization and to vote for new directives.

1.2. XI GENERAL ASSEMBLY

The XI General Assembly of ALAGE took place on 19th of April, 2018, during the XI

COLAGE in Buenos Aires, Argentina. The Assembly started at 16:00 hours. President of ALAGE Dr. Marcos Machado, Vice President Dr. Alejandro Valdivia, and Treasurer Dr. Sergio Dasso and conducted the Assembly. Dr. Marcos Machado opened the Assembly session with opening remarks and presented the following agenda:

- Minutes of past assembly – Report. Approval.
- Ruth Gall, Roberto Manzano and Mario Acuña awards presentations.
- Report from the Information Secretary, Treasurer, and President.
- New membership fees.
- Election of new officers.
- Election of National Representatives.
- COLAGE XII site selection.
- Election of organizational and awards committees, XII COLAGE.
- New authorities remarks.
- Other business.

Dr. Machado proceeded to read the report (see annex I). Also, reports from Treasurer Dr. Dasso and Information Secretary Dr. Taliashvili were presented (see Annexes II and III)

The proposed increase in member fees was unanimously approved by the assembly from U$D10 to U$D 15 yearly. Several payment options were presented as well as possible extra benefits for members. After several proposals and discussions, the final decision about fee payment option will be on the new Directive Board.

According to ALAGE bylaws, the Directive Board and the Advisory Council were elected among the ALAGE members attending the general assembly. The elected Directive Board for the period 2018-2020 is:

- President: Dr. Alejandro Valdivia (Chile) - alejo@macul.ciencias.uchile.cl
- Vice president: Dr. Clezio De Nardini (Brazil) - clezio.denardin@inpe.br
- International Secretary: Dr. Américo Gonzalez Esparza (Mexico) - americo@geofisica.unam.mx
- Information Secretary: Dr. María Graciela Molina (Argentina) - alage.information@gmail.com
- Treasurer: Dr. Marina Stepanova (Chile) - marina.stepanova@usach.cl

The national representatives elected were:

- **Argentina:**Dr. Sergio Dasso (sdasso@iafe.uba.ar)
- **Brazil:**Igo Paulino (igopaulino@gmail.com)
- **Chile:**Dr. Pablo Moya (pablo.moya@ug.uchile.cl)
- **Costa Rica:**Dr. Francisco Frutos (frutos62@gmail.com)
- **Mexico:**Dr. Pedro Corona-Romero (piter.cr@gmail.com)
- **Peru:**Dr. Danny Scipion (danny.scipion@jro.igp.gob.pe)
- **Puerto Rico:**Dr. Alessandra Abe Pacini (apacini@naic.com)
- **Uruguay:**Dr. Ramón Caraballo (jolinar35@gmail.com)
- **Unites States of America:**Dr. Yaireska Collado Vega (Yaireska.M.ColladoVega@nasa.gov)
- **Venezuela:**Dr. Dinibel Perez (dinibel@gmail.com)

Note: Venezuelan representative was selected after the assembly.

The elected president of ALAGE, Dr. Valdivia, and the former president, Dr. Machado, signed a resolution, expressing the concern within ALAGE members for the future of “Observatorio Nacional de Física Cósmica de San Miguel”. (See in annex IV).

The Awards Committee announced the winners of the following awards:

- **Ruth Gall Award:** This award is given to a distinguished researcher, who has collaborated significantly with more than one scientific group from Latin American Institutions, despite the fact that he/she is not affiliated with any Latin American Institution. In this occasion, it was given to **Dr. William Matthaeus**.

- **Mario H. Acuña Award:** The Mario H. Acuña Prize is awarded to a distinguished scientist, employed by educational and/or research institutions in Latin America, whose work has been outstanding in creating scientific infrastructure for research in Space Science (terrestrial or onboard spacecraft) in one or more countries of the region. The Mario Acuña prize, in this occasion, was shared between **Dr. Mangalathayil Ali Abdu** and **Dr. José Francisco Valdés Galicia** and the prize was given by Mario Acuña older sister, Felicitas.

- **Roberto Manzano Award:** This award is given to the best contribution presented in COLAGE, that has a student as the first author. The selected winners were:

  -**M.V. Sieyra** from IATE, UNC-CONICET, Argentina, with the paper: Do Sunspots bubble? (oral presentation)

  -**Cecilia Mac Cormack** from IAFE-CONICET, Argentina, with the paper: Scaling-lows of quiet sun coronal loops (poster presentation)

  -**Fredson Santos** from UNIVAP, Brazil, with the paper: Occurrence and simulation of sporadic E layers near the equatorial ionization and South Atlantic Magnetic Anomaly (poster presentation)

  -**G.A.S. Picanço** from INPE, Brazil, with the paper: Influence of the temporal resolution of averaged TEC values on the accuracy of the disturbance Ionosphere Index (poster presentation)

With regards to which country will host the next COLAGE meeting, two proposals were presented, Chile and Brazil. After voting, Chile obtained 25 votes and Brazil obtained 18 votes. As the winner, Chile proposed the next COLAGE to take place in 2020.

The new Directive Board is in charge of the Scientific Committee for the XII COLAGE that must have, among its members, the current President and the International Secretary.

1.3. COLAGE PROCEEDINGS

The proceedings of the COLAGE XI will be published by Advances in Space Research (ASR) through the following two special issues (SI) listed below:

SI1: "Recent results on solar and heliospheric results affecting Earth" (Special Issue: SOL-HEL Phenomena - Earth)

This special issue in Advances in Space Research highlights the latest developments concerning the impact of solar and heliospheric phenomena on our planetary system, in particular, Earth. This issue focuses on the phenomena that modulate the space environment where our Sun has influence, encompassing from their origin in the solar atmosphere, through their evolution in the interplanetary medium, to their arrival in geospace. Advanced understanding of the drivers of this complex and coupled system is essential to improve predictability of space weather in the heliosphere. The variety of new international heliospheric space missions, together with

increasingly realistic numerical simulations, constitute promising advances to improve forecasting of solar/heliospheric impacts on Earth's environment. Among the specific topics that are appropriate for this special issue are recent results and analyses on phenomena and structures that determine the state of the heliospheric environment. Predictive models and their applications are also appropriate. Dr. Cristina H. Mandrini and Dr. Hebe Cremades are the Guest Editors for this special issue.

SI2: "Magnetosphere, ionosphere and their connection to Space Weather" (Special Issue: Space weather connection)

This special issue in Advances in Space Research is devoted to highlight the latest advances in the study of the terrestrial upper environment, as well as their intimate connection to Space Weather, including its monitoring and forecasting. More specifically, this issue focuses on the response of the Earth's magnetosphere and ionosphere to different external and internal drivers, such as those coming from the Sun (e.g., solar flares), the solar wind (e.g., interplanetary coronal mass ejections) or the lower atmosphere (e.g., gravity waves). As an extension, the impact of these drivers on the magnetospheres of other planets is also of interest. The variability of cosmic ray fluxes near Earth is also a matter of concern, because of their role as indicators of abrupt changes at the interplanetary space. On a broader perspective, the coupling between different sub-systems of the upper terrestrial environment, which is crucial to understand the state and evolution of the full system, is also one of the key aspects covered in this issue. It includes the variability of fluxes of different populations of energetic particles (e.g., trapped radiation belts) as well as the coupling between thermal ions and neutrals, which can affect the dynamical evolution of the upper atmosphere. Different space missions, networks of ground observatories, and also increasingly sophisticated numerical models, are providing new results on these physical systems. Part of this progress is currently used to monitor and forecast the state of this complex system, and several organizations have active Space Weather programs and activities. Dr. Daniel Gómez and Dr. Sergio Dasso are the Guest Editors for this special issue.

1.4. CONCLUSION

As a conclusion, the XI COLAGE continued the tradition of ALAGE to gather Latin American scientists and students to share their works and ultimately to enhance collaboration in Space Geophysics. The school "Latin American School on Data Analysis and Simulations for Space Physics" provided a great space for learning and sharing experiences among young students as a key point to foster collaboration at an early stage in their scientific careers.

Especially in this meeting, a joint effort between several countries to present an integrated work towards space weather development in the region have shown the true spirit of our community.

A panel with world-renowned Latin American scientists helped to raise important questions for the future development of the Space Geophysics, the Latin American role in the international context, instrumentation development and deployment, training and to strengthen long term collaborations in Latin America.

2. IN MEMORY OF MARCOS MACHADO

Marcos Machado (former ALAGE president) passed away on September 20th 2018 after a serious illness.

Marcos was a great and well respected space scientist and a leader in the space physics community.

Marcos E. Machado graduated with a degree in Astronomy at Universidad Nacional de La Plata, Buenos Aires, Argentina, in 1971. He continued his education at the University of Colorado, Boulder, until 1974, and held short-term positions as assistant researcher at the Joint Institute for Laboratory Astrophysics and Sacramento Peak Observatory. From 1977 until 1979, he was research fellow at the Harvard-Smithsonian Center for Astrophysics. Several of his most and still cited articles on spectral analysis and modelling of the solar atmosphere belong to this period.

In the 1980s he became engaged with a group of scientists at Goddard Space Flight Center, NASA, who were involved in several of the instruments flying onboard the Solar Maximum Mission. In particular, because of his previous collaboration with researchers at Utrecht University and a two-year working visit in France and The Netherlands (1981 – 1982), he became mainly involved in the analysis and modelling of the soft and hard X-ray emission of solar flares using the Hard X-ray Imaging Spectrometer (HXIS) observations. His articles from the 1980s and early 1990s presented key and, probably, still valid results on flare energy deposition and transfer along coronal structures.

From 1983 to 1985 he returned with his family to Argentina to work at the Comisión Nacional de Investigaciones Espaciales (CNIE). From 1985 and until 1993, with a few years back in Argentina, he became research fellow at the Marshall Space Flight Center and later Professor at the University of Hunstville, Alabama.

It was during that time that CNIE was replaced by the Comisión Nacional de Actividades Espaciales (CONAE), created in 1991. In 1993 Marcos returned to Argentina to work at CONAE and in 1997 he became its Scientific Director. This new commission signed the first agreement with NASA, in which Marcos played a key role, to launch the first Argentine satellite that included

national scientific payloads. Since then and until his death Marcos worked at CONAE participating, among other tasks, in the design and update of the Argentine Space Program.

Marcos was also member of the International Academy of Astronautics, member of the Editorial Board of Solar Physics from 1982 to 1997, and received in 2006 the Indian Space Research Organization's (ISRO) Vikram Sarabhai Medal, awarded through COSPAR selection, for outstanding contributions to space research in developing countries.

He was also an active supporter of the Latin American space physics community. He was one of the founding members of the Latin American Association of Space Geophysics (ALAGE), and lately, as former president, he worked for the advancement of the international recognition of the Association. He encouraged young scientists to engage actively in space science. He was always a strong supporter of the collaboration between Latin American countries and was regarded as a visionary leader by anyone who had the chance to work with him.

His leadership and commitment will be missed.

Dr. Alejandro Valdivia

Dr. Cristina Mandrini

Dr. María Graciela Molina

3. ANNOUNCEMENTS

3.1. COSPAR Space Weather Capacity Building Workshop Brazil 2018

The COSPAR Space Weather Capacity Building Workshop Brazil 2018 "Space Weather Science Towards Improved Forecasting" relied on topics in Space Weather Science and Applications with an emphasis in Solar Physics, Interplanetary Medium, Geomagnetic Field and Earth Magnetism, and Ionized and Neutral Earth's Atmosphere. The 30 attendees selected by the Scientific Organizing Committee among more than 140 applications, included graduate students and young scientists, from Argentine, Brasil, Chile, Colombia, Costa Rica, Ecuador, Egypt, Finland, India, Mexico, Noruega, Peru, Russia, South Africa, Spain, and USA, that have interest in the Space Weather related topics. All the participants had their food, housing, and transportation expenses paid by the event. The workshop took place in the facilities of the Brazilian Space Weather Study and Monitoring Program (EMBRACE - "Estudo e Monitoramento Brasileiro do Clima Espacial") at National Institute for Space Research (INPE - "Instituto Nacional de Pesquisas Espaciais") in Sao Jose dos Campos, Sao Paulo, Brazil from 17 September 2018 to 28 September 2018. During these two weeks, the attendees had intensive activities, mostly with seminars during the mornings and computer activities (hands-on) in the afternoon, completing a total of 60 hours learning and discussing topics about Space Weather science and applications. The workshop was partially funded by the World Meteorological Organization (WMO). This support financed the participation of Dr. Juan Alejandro Valdivia from UChile (Chile), Dr. Juan Americo Gonzales-Esparza from UNAM (Mexico), Dr. Sergio Dasso from IAFE / UBA-CONICET (Argentina), and Dr. Toshiyuki Kurino from SPO-WMO (Switzerland) during the first week of the workshop, where they presented seminars and participated in discussions about the future of Space Weather in the American Continent. Other organizations and funding agencies as COSPAR, ESA, CAPES, and FAPESP also sponsored the workshop. INPE and SBGEA, the Brazilian Society for Spatial Geophysics and Aeronomy, supported the workshop. The event has the participation of other renowned scientists as Dr. Natchimuthuk Gopalswamy and Dr. Yaireska M. Collado-Vega from NASA (USA), Dr. Raffaella D'Amicis from INAF (Italy), Dr. Ramon Edgardo Lopez from University of Texas (USA),

Dr. Yuichi Otsuka from Nagoya University (Japan), Dr. Alexi Glover from ESA (Germany), Dr. Clezio Marcos De Nardin from INPE (Brazil), Dr. Arnaud Masson from ESA (France), and Dr. Joao Francisco Galera Monico from UNESP (Brazil), whose shared their expertise in the Space Weather related topics with all the participants. On the last day, the attendees presented final projects, analyzing some selected events in the Space Weather, using their newly acquired knowledge.

3.2 **Sociedade Brasileira de Geofísica Espacial e Aeronomia**

Workshop on Equatorial Plasma Bubble Observation Campaign

Chair and main organizer: Dr. Hisao Takahashi

It is our wish to invite you to the upcoming Workshop on “Equatorial Plasma Bubble Observation Campaign”, to be held at Instituto Nacional de Pesquisas Espaciais (INPE), São José dos Campos,SP, Brazil, from 25 to 26 September, 2019.

The idea of the campaign was discussed by several participants during the last VII Symposium SBGEA at Santa Maria, 5-9 November 2018. The scientific issue to be solved on the equatorial plasma bubbles, today, is the seeding process, when and where, and how they develop? In order to get answers for the question, longitudinally extended (more than 1000 km) systematic observations of the plasma bubbles along the geomagnetic equator are necessary. However, this sort of systematic observation of the plasma bubbles has not been carried out yet, and Brazil has a rare opportunity to carry out such observation, due to having a long extension of the geomagnetic equator. Dr. IgoPaulino, president of SBGEA, therefore, suggested to have a workshop and promote open discussions on the subject, and to find out the best way to carry out the scientific campaign by having the participation of all of the SBGEA community who has interest in this subject.

The workshop has the objective to organize a ground based observation campaign for the investigation of Equatorial Plasma Bubbles along the magnetic equatorial and low latitude region in Brazil. Instrumentation, strategic distribution of observation sites, campaign period, data distribution policy, as well as satellite based data archives will be discussed and proposed. Scientific mission and objectives will also be discussed and proposed. We expect the participation of SBGEA members as much as possible. The followings are preliminary ideas of the workshop. Any suggestions and commentary are welcome and we are happy to revise the program:

Local of workshop: INPE, São José dos Campos, SP

Date and period: September 25-26, 2019

Purpose of the workshop: To fix a Proposal of the Campaign: Definition of the scientific purpose, Discussion on the scientific objectives, Instrumentation, observation sites, data distribution policy, chronogram, and any other issues.

We are sorry to inform that there will be no financial support for participants of the workshop. Please inform us your intention to participate in the meeting in your earliest convenience to the following e-mail address: diretoria@sbgea.org.br

Looking forwards to hear from you,

Igo Paulino, President of SBGEA

3.3. **'Neurus' in Antartica**

During January/February of 2019, the LAMP group (Laboratorio Argentino de Meteorología del esPacio, www.iafe.uba.ar/u/lamp) installed a 'Space Weather' laboratory and a cosmic ray detector (called ‘Neurus’) in Antarctica, in the Argentine Marambio station. The detector was designed and built at IAFE, is part of the LAGO Latin American collaboration and its technology is based on the surface detectors of the Pierre Auger Observatory. It is planned that it will be in operative conditions during this year, so that it can report cosmic radiation flows in real time. The project is inter-institutional and is carried out by the Instituto de Astronomía y Física del Espacio (IAFE, UBA-CONICET), Instituto Antártico Argentino (IAA/DNA), and Departamento de Ciencias de la Atmósfera y los Océanos/ Departamento de Física (DCAO/DF, Facultad de Ciencias Exactas y Naturales, UBA).

For more information in spanish:

https://www.nationalgeographicla.com/espacio/2019/01/instalan-el-primer-detector-argentino-de-rayos-cosmicos-en-la-antartida

https://www.conicet.gov.ar/antartida-instalaran-el-primer-detector-argentino-de-rayos-cosmicos/

The four researchers who are carrying out the installation of the laboratory and the detector in the Antarctic Argentine station. From left to right Adriana Gulisano, Sergio Dasso, Omar Areso and Matías Pereira

3.4. **VII SBGEA**


3rd Circular
www.sbgea.org.br/en/vii-sbgea-2/
SBGEA
VII SBGEA
VII Brazilian Symposium on Space Geophysics and Aeronomy
November 05-09, 2018 at CRS/INPE, Santa Maria - RS, Brazil
Space, Atmosphere and Earth Connected
Abstract Submission and Registration Opened:
(http://www.sbgea.org.br/en/vii-sbgea-2/)
▪ Abstract Deadline: July 27, 2018;
▪ Registration Deadline: October 05, 2018
Scientific areas addressed:
✓Solar Physics and Planetary Magnetospheres
✓Ionosphere: Earth and Planets
✓Space Weather and Sun-Earth Connections
✓Engineering Associated with Space Geophysics and Aeronomy
✓Mesosphere and Thermosphere
✓Modeling and Applied Computing to Space Physics and Aeronomy
✓Meteorology: Tropospheric and Stratospheric Phenomena
✓Geomagnetism and Magnetotelluric
Local Organizing Committee:
Dr. José Valentin Bageston (CRS/INPE)
Dr. Juliano Moro (CRS/INPE & NSSC/CAS)
Dr. Nelson Jorge Schuch (CRS/INPE)
Dr. Andrei Piccinini Legg (UFSM)
Dr. André Luís da Silva (UFSM)
Dr. Nattan Roberto Caetano (UFSM)
Dr. Damaris Kirsch Pinheiro (UFSM)
Supporting Institutions
Supporting Institutions
SANTA MARIA-RS
PLANETARIUM/UFSM
CRS-INPE
OES/CRS-INPE
Photo: Juliano Moro
Available at http://www.inpe.br/crs/

3.5. **Towards Future Research on Space Weather Drivers**

From 2nd to 7th of July, 2018, San Juan, Argentina welcomed the scientific meeting, "Towards Future Research on Space Weather: Concepts and Tools" (http://www.iafe.uba.ar/freswed2019/).
This event was organized on the occasion of the total solar eclipse of 2019, whose totality path crossed five provinces of Argentina, extending for more than 1200 km.
The main objective was to enable understanding and being able to forecast space weather as an increasingly important aspect of our modern technology-reliant society. The Meeting promoted the exchange of information in the area of space weather, from the point of view of the phenomena that drive it from their origin in the solar atmosphere, through their evolution in the interplanetary medium, to their arrival in geospace.

Among the specific subjects covered are:

-Solar sources, generation, and development of dynamic events that determine space weather conditions.

-Coupling of solar atmospheric layers: data-driven models of the large scale corona and solar wind.

-Interplanetary counterparts of solar activity and their space weather consequences.

-Computational and observational tools for space weather forecasting.

-Space- and ground-based instrumentation with space weather applications.

There were a total of 115 attendees in total, 79 researchers, and 36 students and young scientists. Presentations included invited talks (27), oral (30) and poster contributions (57).
The meeting was accompanied with a school geared towards students and young researchers who seek to gain a broad overview of space weather domains, concepts, tools, and resources. The lectures were organized and given under the Community Coordinated Modeling Center (CCMC) NASA structure.

Several outreach activities were also planned along the meeting by teaching the local community about Space Weather and the total solar eclipse.
More details about the final scientific program and school can be found at http://www.iafe.uba.ar/freswed2019/.

Group photo: "Towards Future Research on Space Weather: Concepts and Tools"

Totality: Photo taken by Dr. Americo Gonzalez Esparza - 02nd of July 2018, San Juan, Argentina

3.6. **XII COLAGE – First Announcement**

The **XII Latin American Conference on Space Geophysics (COLAGE)** will be held at the Cabanas Valles de Pucon in Pucon, Chile, from 14-18 of December 2020 during the same week of the total Eclipse that will occur the 14th of December 2020. Weather permitting, the total eclipse of December 14 should be seen at the conference site. This will be a great opportunity for researchers and PhD students from Latin American countries to exchange and debate original results from their research on different areas related to Space Geophysics which include:

- The Sun and Sun-Earth interactions
- The heliosphere and cosmic rays
- The magnetosphere
- Ionosphere and high atmosphere
- Space weather
- Solar and space plasma physics
- Nonlinear processes in space geophysics
- Space instrumentation

Conveners and Scientific committee:

Sergio Dasso - UBA, Argentina - dasso@df.uba.ar

Americo Gonzalez Esparsa - UNAM, Mexico - americo@igeofisica.unam.mx

Clezio de Nardin - INPE, Brasil - clezio.denardin@inpe.br

Maria Graciela Molina - UNT, Argentina - gmolina@herrera.unt.edu.ar

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Further information: https://ccc.ciencias.uchile.cl/2020colage/index.php

4. COMMUNICATION

In order to improve the communication among the ALAGE community members, the information secretary has enabled new channels. Currently, information is delivered using the newly updated and improved web page, mailing list and social networks. As usual, each member can access this information through their national representatives.

Website: http://www.alage.org/
Information Secretary mail: alage.information@gmail.
Facebook page: @alage.official
Twitter: @ALAGE_official

5. ACKNOWLEDGMENTS

The ALAGE Information Secretary thanks all the contributions submitted to this bulletin from colleagues and National Representatives of ALAGE.

ANNEX I. REPORT OF THE PRESIDENT

By force of the circumstances, and thanking our Treasurer Sergio Dasso who kindly agreed to give the oral presentation of this report covering the activities carried out since our Cusco assembly, we decided to make it as brief as possible. At this Assembly, besides electing the board members that will accompany Juan Alejandro (Alejo) Valdivia, our President Elect, we want to review what has been done, as well as not done, since Cusco, and hopefully discuss and decide a few relevant matters regarding ALAGE's future that may make Alejo's, as well as his successor's, life easier and more profitable in terms of achieving ALAGE's goals. We also want to mention upfront that the XI COLAGE is also an excellent time to celebrate the 60th anniversary of the establishment of its de facto predecessor, the CLARC (Consejo Latinoamericano de Radiación Cósmica, see the COLAGE - 25 years booklet).

We shall now refer to two main items:

- Status of ALAGE.

- Need to improve its finances, what has been done and what could be done.

Regarding the first item, as we said in Cusco, it was our intention to try and reinforce ALAGE's standing within the concert of international committees and associations that have similar objectives, as the main regional representative of Space Geophysics in Latin America. We have as such, established partnership agreements with COSPAR and SCOSTEP, and a closer link with the IAU but without reaching a formal agreement. COSPAR now recognizes ALAGE as the regional association dedicated to the promotion of space geophysics, giving it a preferred status, otherwise only given to associate supporters that contribute in monetary terms, to promote its activities during the COSPAR Scientific Assemblies. Unfortunately, this could not be done two years ago due to the cancellation of the Istanbul assembly, but will be done this year in Pasadena. In the case of SCOSTEP, we can simply refer to the School on Data Analysis and Simulations to be held next week, as the continuation of the very successful series led by Abe Chian in previous cases, and who for personal reasons has been unable to join us this time. We also hope that the round table being organized during tomorrow's session on Space Weather will serve to shape ALAGE´s scientific participation in upcoming SCOSTEP programs.

With combined reference to items one and two, we need to refer to the ALAGE finances, a subject also dealt with by Sergio Dasso in his report. We wish to ask the Assembly to approve an increase in the individual membership fees (currently at 10 US Dollars/year) to 15 US$/year. Although a larger increase might have been appropriate after so many years, recognizing that many members experience difficulties in obtaining funding to attend the COLAGEs, and that many ALAGE members are also members of other international entities, in addition to their national associations, make it difficult to meet the payment of many annual membership fees, the Executive Board unanimously agreed to propose to increase it just to 15 US$, which sounds as a reasonable amount so that it is not a large burden and can be met by a maximum number of ALAGE members.

During our tenure we also explored the possibilities of finding additional sources of support, a matter that has proven to be much harder than what we had anticipated, in some way associated with the itinerant character of the ALAGE "home base" and the lack of a legal figure (like those of e.g. the IAU, COSPAR and SCOSTEP secretariats, to name some other international organizations), and a matter I have discussed with people associated with ICSU (International Council of Scientific Unions) and others versed in legal aspects. On the other hand, it is also a true and current fact that many scientific societies have problems with money. Due to the research funding cuts, cancellation of annual fees by institutions or universities is a worldwide trend with countries even deciding to withdraw from paying their duties. Here in Argentina, as an example, our research council, the CONICET, decided not to pay the IAU and other unions contributions, not to speak ICSU.

For sake of brevity, considering that the important issues are the next items in the agenda, I simply want to finish by thanking all the members of the executive board, Alejo, Abe, Lela and Sergio that have accompanied, and above all, helped me during these years since Cusco, and this list also includes Blanca, our former past president, that also contributed with her experience and advise.

To end, let me wish Alejo and the new executive members the best for the upcoming years!

Marcos Machado

ANNEX II. REPORT FROM THE TREASURER

ALAGE ASSEMBLY

REPORT OF THE Treasurer

After the X COLAGE assembly (in Cuzco, Perú, 2014), Sergio Dasso received from the previous Treasurer (Juan Américo Gonzalez) an amount of U$S dollars 4,595.00. Last day of the X COLAGE in Cuzco, Sergio Dasso received from last moment memberships: U$S 70.

During the present management (2014-2018):

- 4-years maintenance for the ALAGE web site: U$S 160.00.
- Payment of design and print of two institutional posters (banners) and 100 color high quality flyers, to present and distribute at COSPAR assemblies: U$S 508.
- Payment of medals and certificates for ALAGE prizes (Ruth Gall and Mario Acuña prizes): U$S 237.
- Payment of a book for ALAGE prize (Roberto Manzano prize): U$S 137.

During the XI COLAGE in Buenos Aires, we collected U$S 1090 as ALAGE membership fees.

Summary:

(currency: U$S)	Income	Expenses	Balance
From X COLAGE	4,595	----------	4,595
Last day membership at X COLAGE	70	----------	4,665
maintenance ALAGE web site	----------	160	4,505
Posters and flyers (color x 100), COSPAR	----------	508	3,997
medals ALAGE prizes (Acuña & Gall)	----------	237	3,760
Book ALAGE prize (Manzano)	----------	137	3,623
Memberships during XI COLAGE	1090	----------	**4,713**

Thus, a total amount of **U$S 4,713** were given to the new ALAGE Treasurer.

Sergio Dasso

Buenos Aires, April 19th, 2018

ANNEX III. REPORT FROM THE INFORMATION SECRETARY

Prof. Lela Taliashvill

First of all, I'm sorry for not being able to participate in XI COLAGE and the ALAGE Assembly.

Let me inform you that after the last X COLAGE in Cusco, we edited and published one issue of the Bulletin (No. 38) and mostly we have been dedicated to the improvement of the ALAGE website, thanks to the collaboration of the President of ALAGE, the previous and current ALAGE Directive Board. The ALAGE page, which includes most relevant information about the ALAGE association, is systematically updated and incorporated with all the announcements that reach us. We thank the ALAGE members who sent us the announcements related to the various scientific activities.

We hope that the new ALAGE website will be the most efficient platform to maintain close communications among ALAGE members and distribution of all the information considered relevant to the ALAGE association; although the provisional method of communication through National Representatives, which we have used, has undoubtedly been a task that we have achieved thanks to the National Representatives.

The next new ALAGE Directive Board can use and improve this platform to achieve the broader objectives.

With my best wishes for the ALAGE community,

Prof. Lela Taliashvili, PhD

Director

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ANNEX IV. OBSERVATORIO NACIONAL DE FÍSICA CÓSMICA DE SAN MIGUEL: ASSEMBLY RESOLUTION

Asociación Latinoamericana de Geofísica Espacial
Associação Latino-americana de Geofísica Espacial
Latinamerican Association of Space Geophysics

Buenos Aires, 19 de abril de 2018

En el día de la fecha, la Asociación Latinoamericana de Geofísica Espacial (ALAGE) reunida en asamblea, votó en forma unánime expresar su preocupación por la situación que atraviesa el Observatorio Nacional de Física Cósmica, sito en la ciudad de San Miguel, Provincia de Buenos Aires, Argentina. Ha llegado a nuestro conocimiento que el predio del Observatorio fue traspasado por la Fuerza Aérea a la Municipalidad de San Miguel, que construirá allí un Polo Judicial, con lo que el Observatorio puede llegar a ser demolido. Ante esta situación, la ALAGE desea manifestar su apoyo a posibles acciones para lograr el objetivo de preservar el Observatorio, o en caso de no ser posible en su totalidad, al menos su instrumental, datos e historia. Se hace también notar que dos ex presidentes de la ALAGE, uno abajo firmante y otra la Dra. Marta G. Rovira, que también presidiera el CONICET, comenzaron sus carreras de investigadores en el mencionado Observatorio, junto con otros prestigiosos miembros de la comunidad científica argentina.

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