ANDEAN REGIONAL OFFICE OF ASTRONOMY FOR DEVELOPMENT

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UNIVERSIDAD DE ANTIOQUIA
1803

OAD F2F Meeting - SAAO - Jan 28 2020

COUNTRIES

- 6 signing countries
  - Chile: special status
- 20 cooperating institutions
  - General coordinator: Jaime Forero (Uniandes)
  - TF1 coordinator: Germán Chaparro (UECCI)
  - TF2 coordinator: Ángela Pérez (Planetario de Medellín)
  - TF3 coordinator: Vacant (nominated by SOCHIAS)

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ANDEAN ROAD OPERATIONAL OBJECTIVES

- Develop joint radio astronomy projects and meetings.
- Develop joint astroparticle projects and meetings.
- Establish solid online communication between ROAD participants through public mailing lists.
- Develop and improve the material and activities planned in Astronomy with all senses project. It works with general public (teacher, students and families with members with disabilities).
- Develop an annual Andean School for Astronomy.
- Plan an annual meeting in each TF in different countries each year.
- Build Partnerships with Universities in the Andean Region to develop an astronomy MOOC.
- Explore the possibility to create an Andean Masters program.
- Make a translation of Mitaka manual from English to Spanish and implement training teacher process to encourage the use of this tool.
- Establish solid and fluid communication between project coordinators in different ROAD countries.

Worked Kind of worked Did not take off

RADIO ASTRONOMY WORKING GROUP (TF1)

- Coordinator: Oscar Restrepo (U. de Chile)
  orestrepog@ecci.edu.co

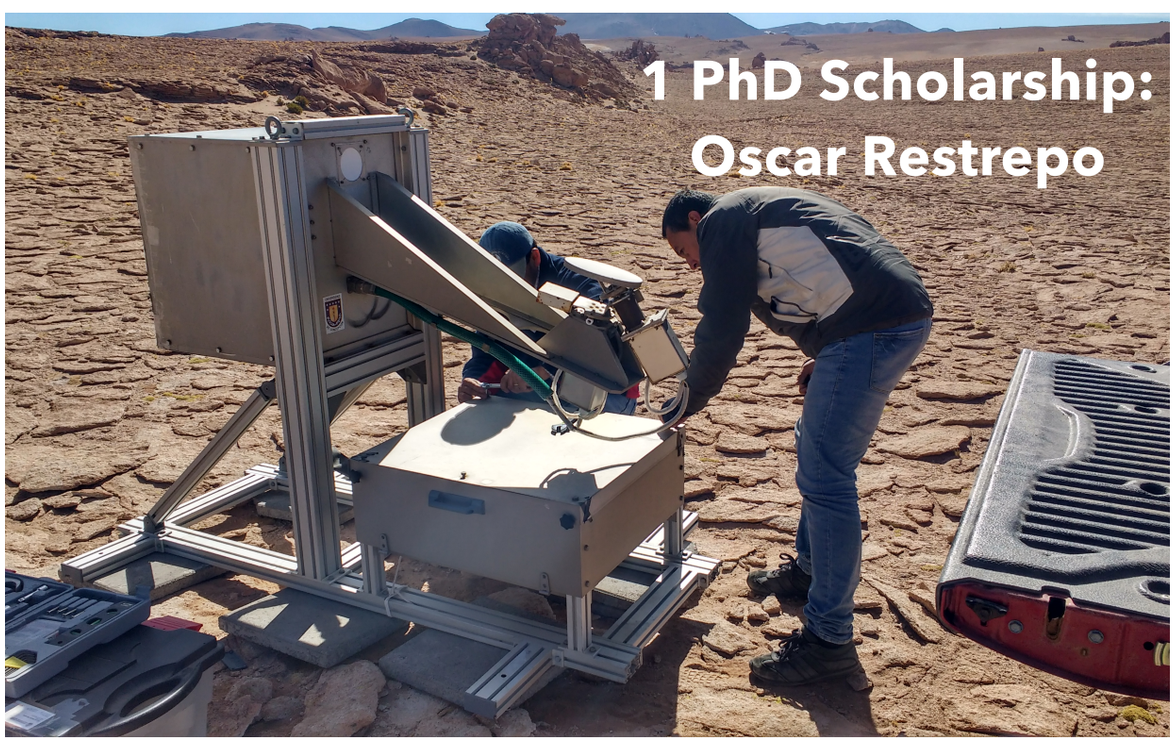
MAPPER OF THE IGM SPIN TEMPERATURE (MIST)

UNIVERSIDAD DE CHILE

UNIVERSIDAD ECCI

Agencia Nacional del Espectro

Universidad Industrial de Santander



REFURBISHMENT OF SOUTHERN MM-WAVE TELESCOPE

UNIVERSIDAD ECCI

UNIVERSIDAD DE CHILE

1 PhD Scholarship:

Diana Cubillos

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RADA: BIG DATA COLOMBIA (2018–2020)

Radio Astronomy for the Development of the Americas

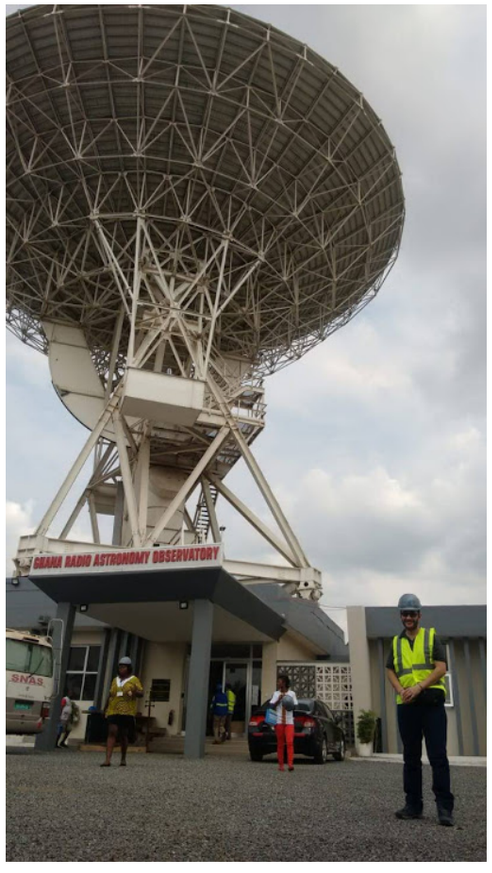
2 Big Data training workshops @ Medellín

6 research MSc Scholarships
Agri, Health, Astro

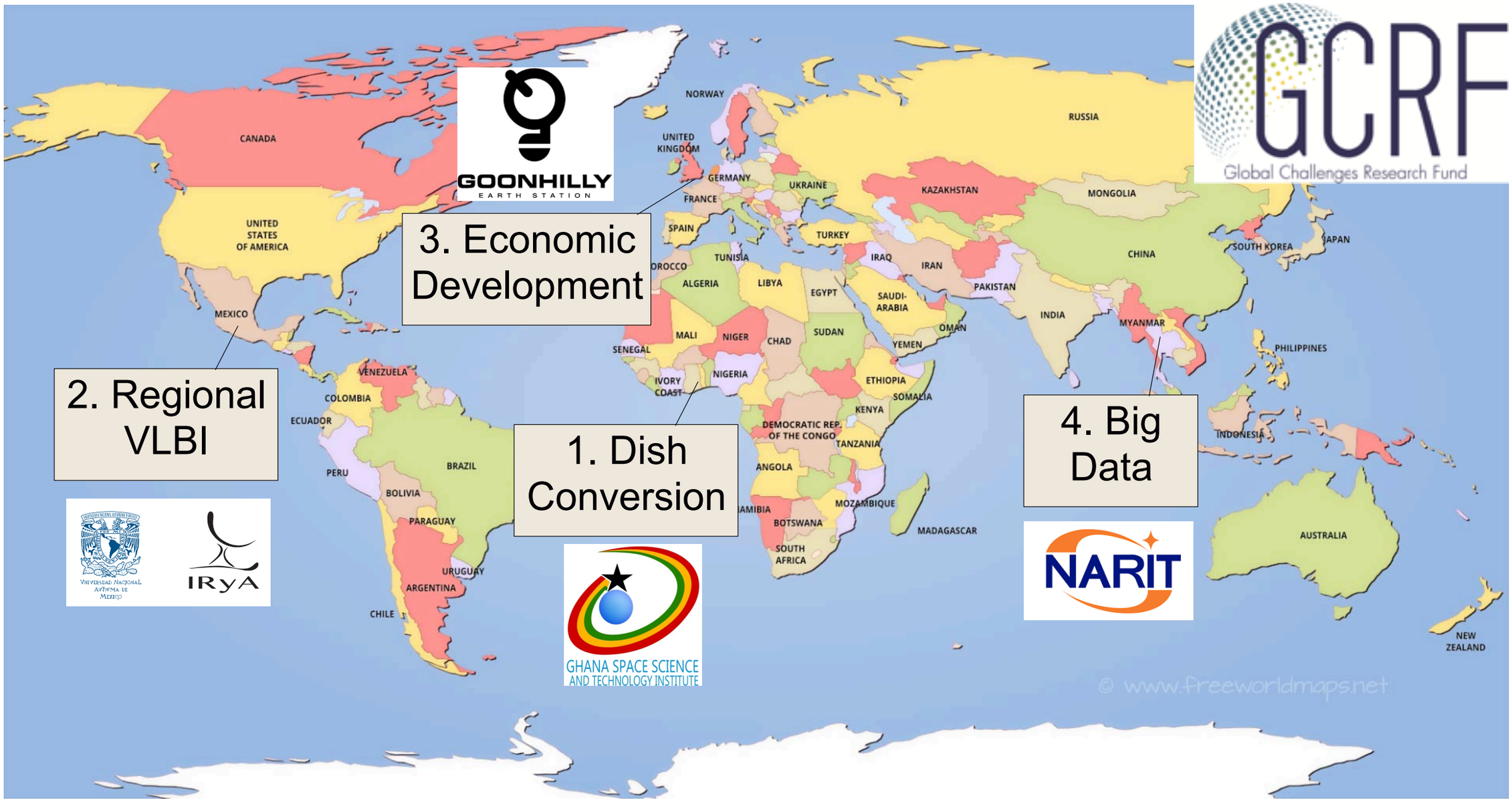
Co-supervision of 2 student projects at University of Leeds

Yennifer Angarita
Pattern finding in samples of YSO spectroscopic data (ALMA)

Felipe P. Mosquera
Use of power-wall displays for interactive RFI removal
(e-MERLIN)

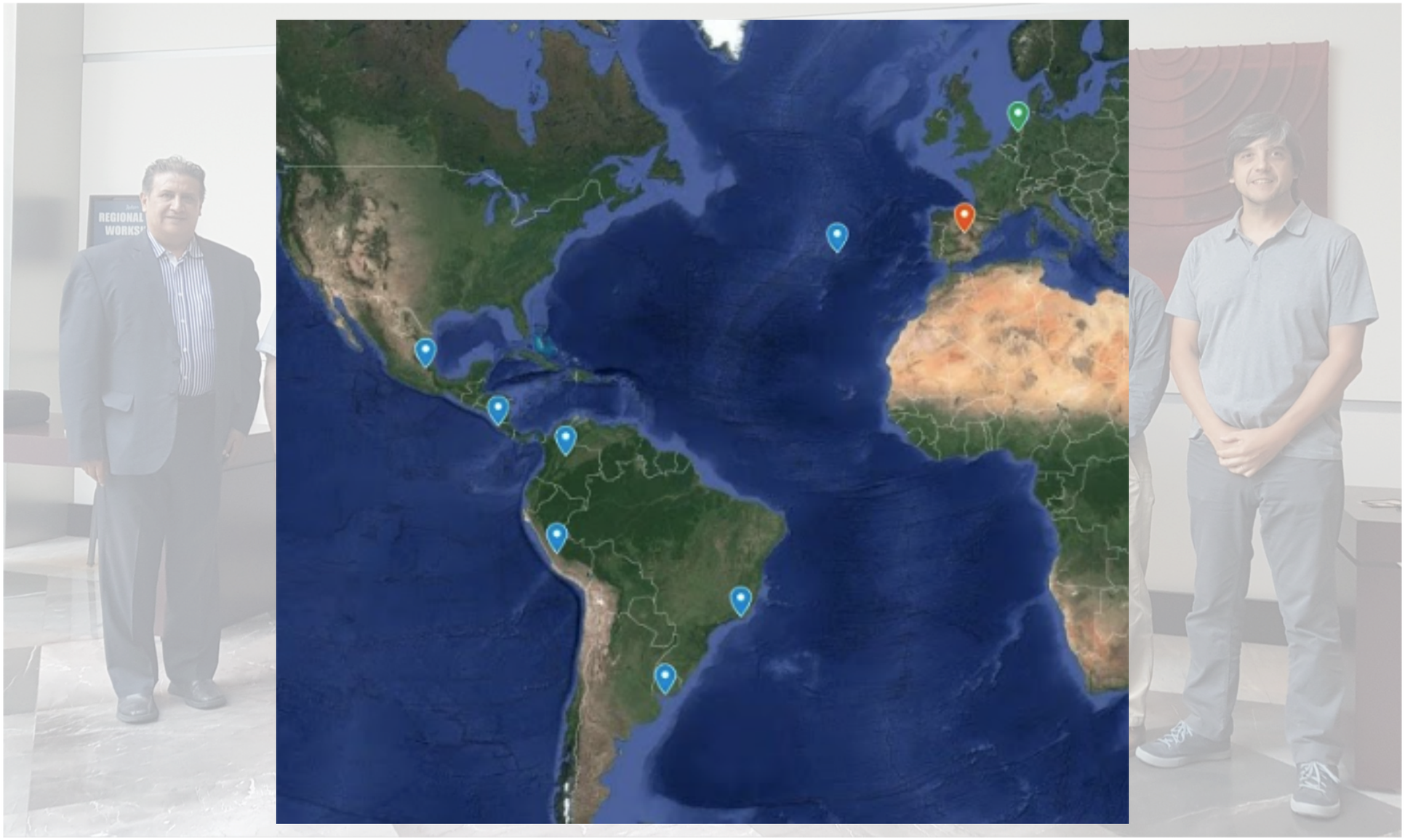


DEVELOPMENT THROUGH RADIO ASTRONOMY GLOBAL NETWORK (2019)



Four meetings -> Seed for Ibero-American VLBI Network

IVIA - Iniciativa VLBI Iberoamericana

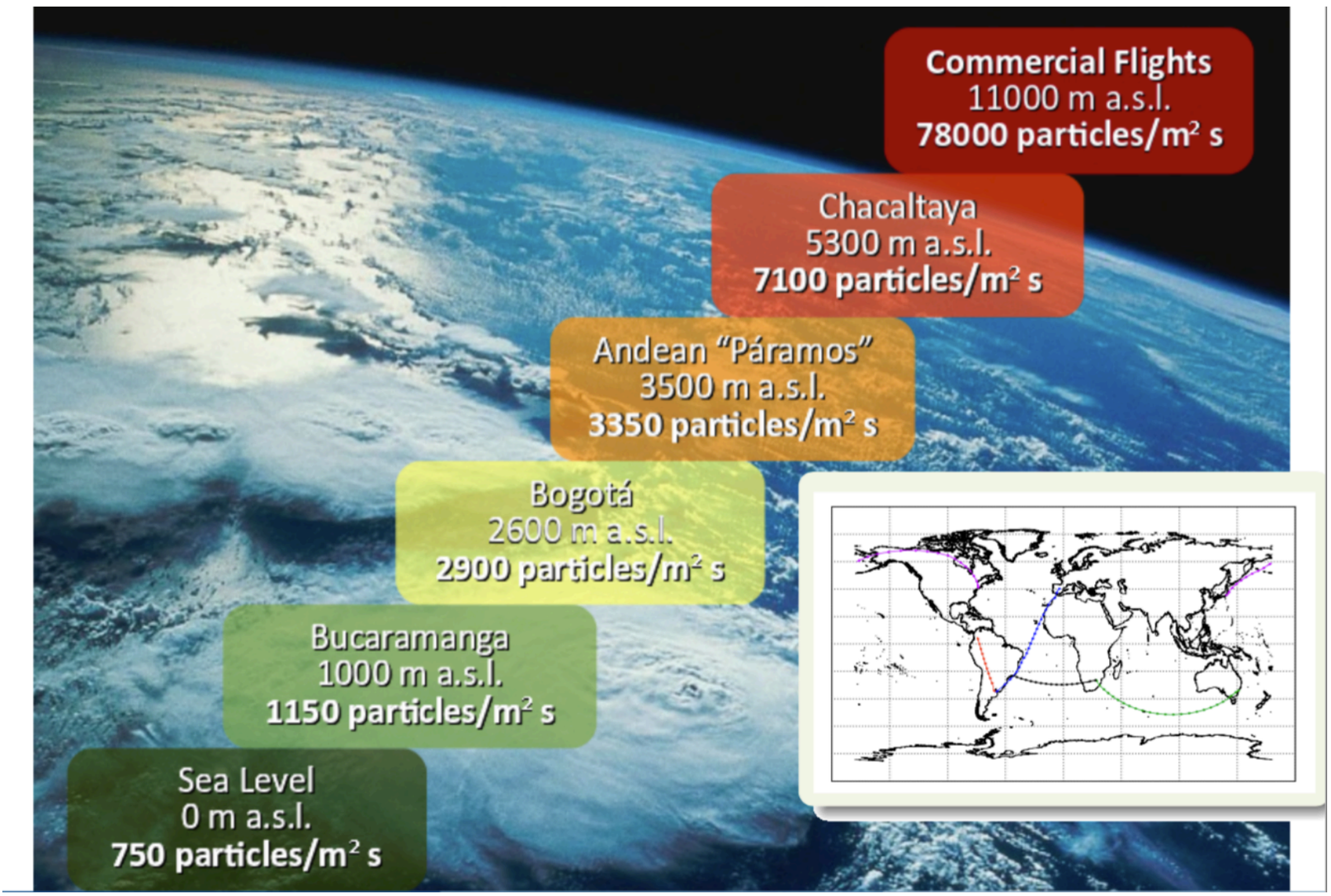


Blue pins: Antenna conversion projects

TF3 + TF1 INTEGRATION

ASTROPARTICLE PHYSICS WORKING GROUP (TF1)

- Coordinator: Luis Núñez (UIS, Colombia) lnunez@uis.edu.co



The Latin American Giant Observatory (LAGO) Project

A very long baseline "array" of water Cherenkov detectors (WCD)

- Sites at eight countries: Argentina, Bolivia, Colombia, Ecuador, Guatemala, México, Perú & Venezuela
- Two new detectors in Brazil will be incorporated by 2016

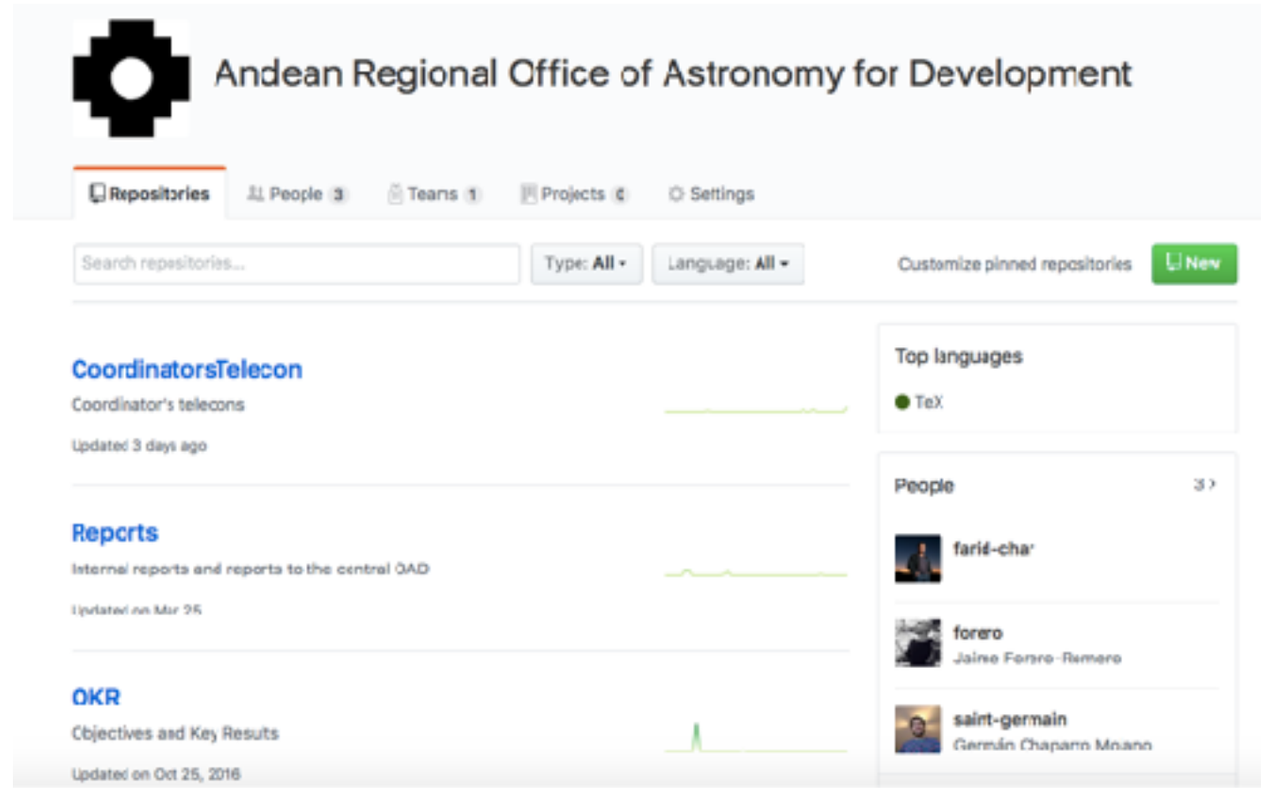
The LAGO Collaboration

- 80 members from 25 institutions at 10 LA countries
- **Scientific goals**:
  - Astroparticles up to the CR knee
  - Study transient and long term Space Weather phenomena trough Solar modulation (SM) of Cosmic Rays (CR)
  - Measurements of background radiation at ground level
- **Academic goals**:
  - Train latin-american students in HEP and Astroparticle techniques
  - Build a Latin-American network of Astroparticle researchers

SOLID ONLINE COMMUNICATION

Open access via GitHub project repositories

https://github.com/AndeanROAD



Dedicated mailing lists: General, TF1, TF2

ASTRONOMY FOR PEOPLE WITH PHYSICAL DISADVANTAGES (TF2, TF3)

CURRENTLY BROWSING CATEGORY

Astronomy with all Senses

Overview of the project

2015/12/01 | Filed under: 2016, Astronomy with all Senses, Latin America + Caribbean, T

Project leader: Nayive Rodriguez, nrodri70@gmail.com Project location: Colombia
traveling exhibition, specially designed for people with physical disadvantages in c
science and inspire them with the wonders of the universe. For people with norm

Handbook (in Spanish) at:

http://www.astro4dev.org/wp-content/uploads/2017/01/Final-handbook-Astronomy-with-all-Senses.pdf

TELESCOPE RE-COMMISSIONING

Signed agreement between North Catholic University (Chile) and University of Antioquia (Colombia).

La Silla One Meter Telescope (LSOM) **previously decomissioned**. The telescope will have a high resolution spectrograph (named FIDEOS, full wavelength coverage) and a CCD camera (optical wavelengths).

40 nights obs. time per year for the Colombian astro community.

MEETINGS

Workshop Astronomía en los Andes (Colombia: 2013, 2015, Perú: 2018,???)

Biannual Andean ROAD Meeting

TF2 MEETINGS

- Aula bajo las estrellas (2013, 2017, 2020?)

ANDEAN ASTRONOMY AND ASTROPHYSICS SCHOOL (TF1)

- Biannual school for advanced BSc and MSc students (only one was organized).

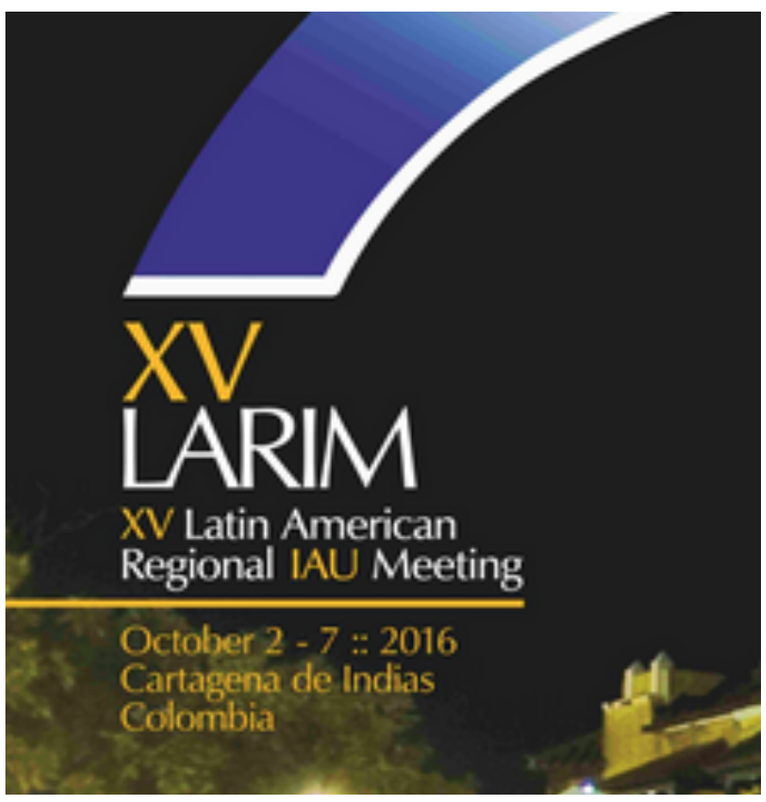
PROJECTS THAT DID NOT TAKE OFF

- **Andean MSc Astrophysics program (TF1)**
  - Stuck at proposal phase
- **Andean MOOCs**
  - **Astrophysics - Computer Science (TF1)**
    - Attached to Astroparticle Physics WG
    - Stayed in alpha-phase
  - **Erathostenes@Schools (TF2)**
    - Text material was completed
    - Some video material was made: http://bit.ly/2rrfuTz
    - Colombia - Venezuela collaboration stopped
- **Mintaka**
  - Person in charge was removed from position due to political reasons (Perú)

CHALLENGES

- Adequate funding: Meeting rate goal was never achieved. Funding was available for very specific collaborations at an inter-institutional level.
- Managing the volunteers: Communication and coordination between project volunteers and the ROAD is not seen as necessary.
- Managing and motivating the Task Forces: Difficulties in keeping faith in ROAD possibilities from apparent disconnect between ROAD and OAD.
- Imbalance between countries. Collaboration with some ROAD institutions due to economic/political reasons (Bolivia, Venezuela) or structural reasons (Chile - SOCHIAS).

INTERNATIONAL MEETINGS – SCHOOLS



2021 STRATEGIC GOALS

- Consolidate a volunteer group supporting the objectives in each of the Task Forces.
- **Restructuring Chilean participation in Andean ROAD**
- Institutionalize annual Task Force meetings.
- **Seek matched funding from abroad for ROAD-wide participation in meetings**
- Achieve international credibility as an international collaboration able to implement astronomy related development activities in the Andean region.
- **Strengthen outreach channels for ROAD projects**

OVERSIGHT – STEERING COMMITTEE

1. Director of the Physics Department at Universidad de los Andes
2. President of SOCHIAS
3. Carlos Molina, OAO NOC
4. German Chaparro (Universidad ECCI, Colombia) TF1 Coordinator
5. Angela Perez (Parque Explora, Colombia) TF2 Coordinator
6. Jaime Forero (Universidad de los Andes, Colombia) General Coordinator
7. Kevin Govender (IAU OAD)

SELF-EVALUATION

- One student from Uniandes (Colombia) is working on it
- Will be completed before June 2020