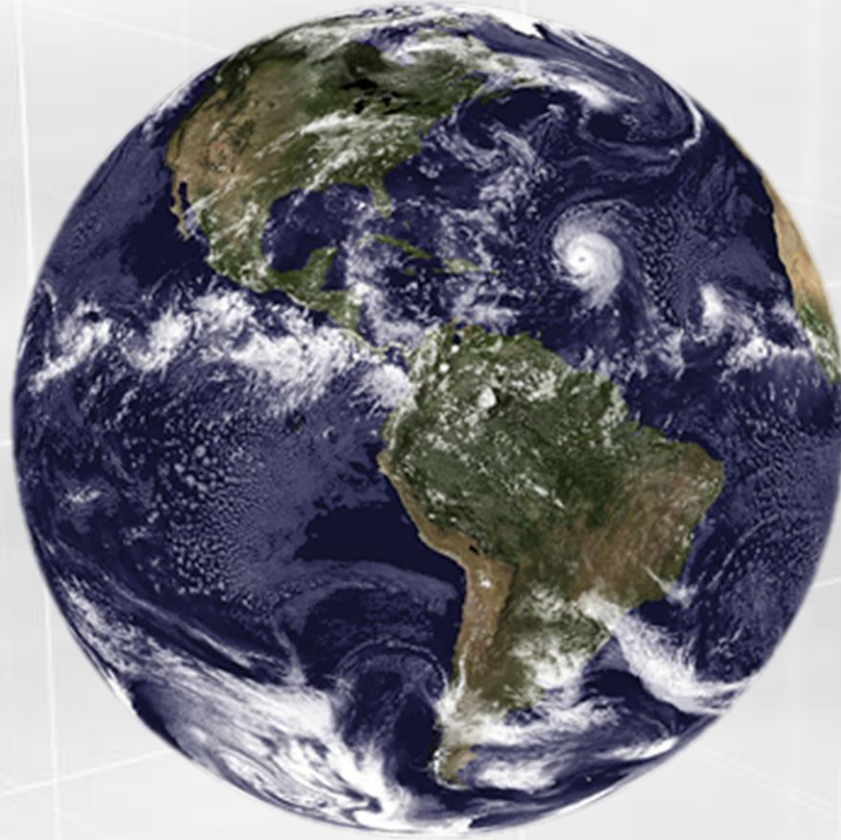


The Establishment and Work of ROAD-Andina

Regional Office of Astronomy for Development



International
Astronomical
Union | Office of
Astronomy
for Development



Raúl Joya

Astronomical Observatory Director
Bogotá, Colombia . South america

UN / Italy Open Universe initiative
Vienna, Austria. 20 - 22 Nov. 2017



UNITED NATIONS
Office for Outer Space Affairs

Observatorio Astronómico

Escuela de Ciencias Exactas e Ingeniería



UNIVERSIDAD
SERGIO ARBOLEDA

Agenda

1. OAD
2. Andean R.O.A.D
 - Astronomy for Universities & Research (TF1)
 - Astronomy for Children & Schools (TF2)
 - Astronomy for the Public (TF3)
3. Strengths and Weaknesses
4. Use and Education of Space Technologies for Economic and Social Development in Colombia
5. From Andean Region Node to Open Universe



OAD



<https://www.iau.org/development/regionalnodes/>

Andean R.O.A.D



Andean R.O.A.D



ECUADOR
15 MILLION PEOPLE



Andean R.O.A.D



ECUADOR
15 MILLION PEOPLE



COLOMBIA
48 MILLION PEOPLE



Andean R.O.A.D



ECUADOR
15 MILLION PEOPLE



COLOMBIA
48 MILLION PEOPLE



VENEZUELA
30 MILLION PEOPLE



Andean R.O.A.D



ECUADOR
15 MILLION PEOPLE



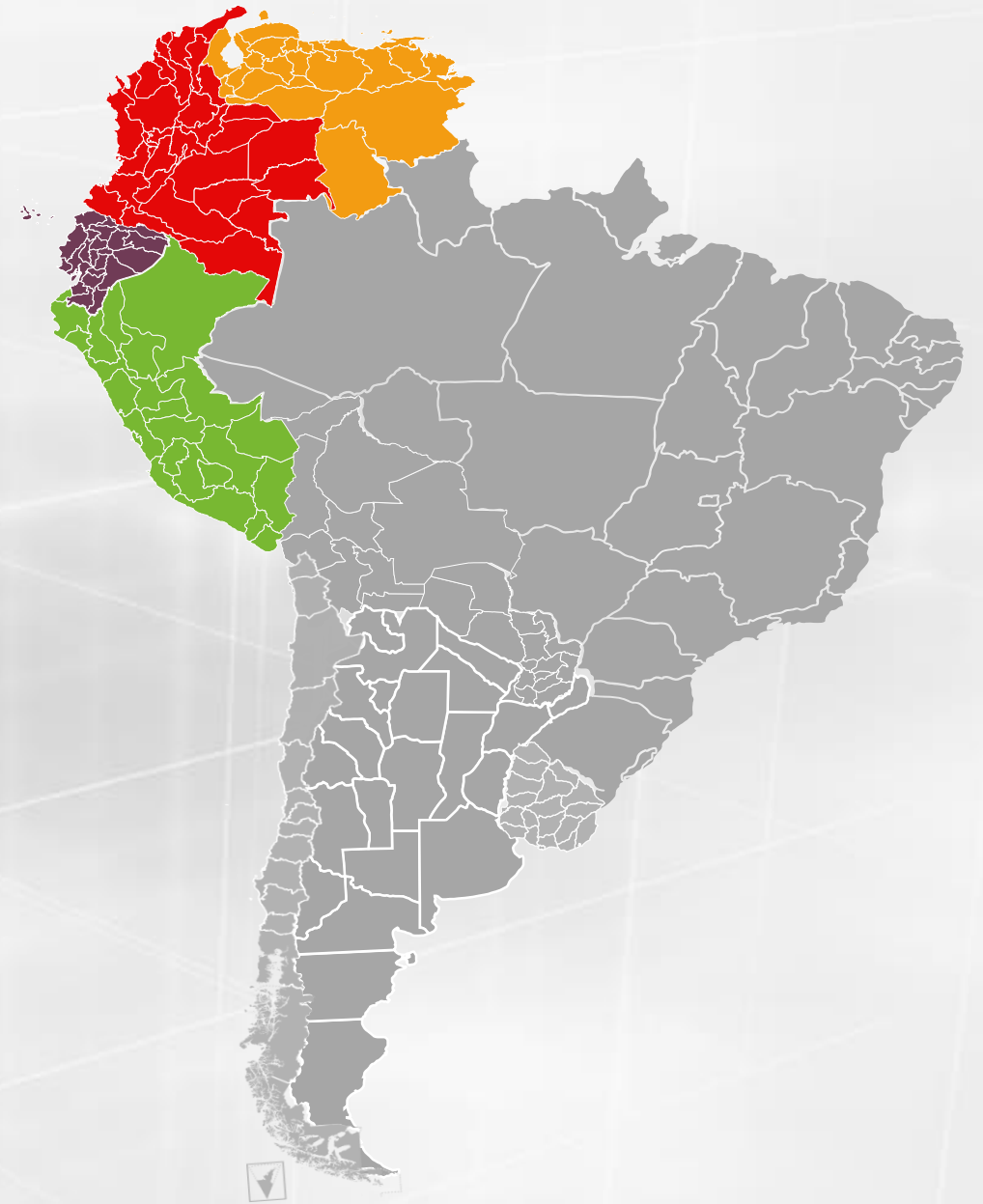
COLOMBIA
48 MILLION PEOPLE



VENEZUELA
30 MILLION PEOPLE



PERU
30 MILLION PEOPLE



Andean R.O.A.D



ECUADOR
15 MILLION PEOPLE



COLOMBIA
48 MILLION PEOPLE



VENEZUELA
30 MILLION PEOPLE



PERU
30 MILLION PEOPLE



BOLIVIA
10 MILLION PEOPLE



Andean R.O.A.D



ECUADOR
15 MILLION PEOPLE



COLOMBIA
48 MILLION PEOPLE



VENEZUELA
30 MILLION PEOPLE



PERU
30 MILLION PEOPLE



BOLIVIA
10 MILLION PEOPLE



CHILE
17 MILLION PEOPLE



Andean R.O.A.D



ECUADOR
15 MILLION PEOPLE



COLOMBIA
48 MILLION PEOPLE



VENEZUELA
30 MILLION PEOPLE



PERU
30 MILLION PEOPLE



BOLIVIA
10 MILLION PEOPLE



CHILE
17 MILLION PEOPLE



Some cooperating institutions

Bolivia

[Universidad Mayor de San Simón](#)

Colombia

[Universidad de los Andes](#)

[Universidad ECCI](#)

[Observatorio Astronómico Nacional](#)

[Universidad de Antioquia](#)

[Universidad Distrital Francisco José de Caldas](#)

[Planetario de Bogotá](#)

[Parque Explora - Planetario de Medellín](#)

[Universidad Industrial de Santander](#)

[Universidad Sergio Arboleda](#)

Chile

[Sociedad Chilena de Astronomía, SOCHIAS](#)

Ecuador

[Escuela Politécnica Nacional](#)

[Universidad San Francisco de Quito](#)

Perú

[Instituto Geofísico del Perú](#)

[Universidad Nacional de Ingeniería](#)

Venezuela

[Centro de Investigaciones de Astronomía, CIDA](#)

[Instituto Venezolano de Investigaciones Científicas, IVIC](#)

Andean R.O.A.D- Human Team



Coordinator

**Jaime
Forero**

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Colombia



TF1

**German
Chaparro**

germancho@
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Colombia



TF2

**Angela
Perez**

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parqueexplora.org

Colombia



TF3

Farid Char

farid.char@uantof.cl

Chile

Andean R.O.A.D- Open Access Via Github

<https://github.com/AndeanROAD>

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Andean Regional Office of Astronomy for Development

 **Repositories** 18

 **People** 1

Type: All ▾

Language: All ▾

Reports

Internal reports and reports to the central OAD

Updated on 29 Sep

ProposalROAD

Proposal for the creation of an Andean ROAD

● TeX Updated on 25 Aug

Top languages

● TeX

People

 1 >

 **forero**
Jaime Forero-Romero

TF1: Astronomy for Universities & Research

PROJECTS:

- Working group on Astroparticle physics
- Working group on Radioastronomy
- Andean Masters Program (leaders: U. Antofagasta, Chile; U. Andes, Colombia)
- Andean Astronomy and Astrophysics School (annual event)
- Astronomy in the Andes Workshop (biannual event)



BOGOTA COLOMBIA

TF1: Astronomy for Universities & Research

Meetings and groups events

1st Astronomy Workshop
Los Andes University
2013 Bogotá - Colombia



TF1: Astronomy for Universities & Research

Meetings and groups events

2nd Astronomy Workshop
Los Andes University
2015 Bogotá - Colombia

SEGUNDO WORKSHOP DE ASTRONOMÍA EN LOS ANDES
27 - 31 DE JULIO DE 2015
Universidad de Los Andes
Bogotá, Colombia

Fecha límite
Recepción de trabajos
29 DE MAYO

Invitados
Lydia Cidale
Instituto Astrofísica de La Plata, Argentina
Farid Char
U. de Antofagasta, Chile
Kevin Govender
Oficina de Astronomía para el Desarrollo-IAU, Suráfrica
José Ishitsuka
Instituto Geofísico del Perú
Kathy Vieira
Centro de Investigaciones Astronómicas, Venezuela
Matias Gómez
U. de Chile

Comité Organizador local
Jaime Forero-Romero (Unianandes, Colombia)
Germán Chaparro Molano (UECCI, Colombia)
Alejandro García (Unianandes, Colombia)
Beatriz Sabogal (Unianandes, Colombia)

Comité Organizador Científico
Dennis Cazar (U. San Francisco de Quito, Ecuador)
Juan Carlos Muñoz-Cuertas (U. de Antioquia, Colombia)
Fausto Mena (U. de Chile)
Luis Nuñez (U. Industrial de Santander, Colombia)
Cecilia Scorza (Haus der Astronomie, Alemania)
Nobar Baella (Instituto Geofísico del Perú)

Temas
Astropartículas
Radioastronomía
Financiación de proyectos
Astronomía para el público
Educación en escuelas
Educación superior

Más información sobre la programación del workshop en:
<http://andeanroad.github.io/WorkshopAstronomiaAndes2/>
<http://bit.ly/1PJJ4Ad>

Contacto:
gchaparron@eccei.edu.co
je.forero@uniandes.edu.co

Organizadores:
IAU
UECCI
Universidad de los Andes



TF1: Astronomy for Universities & Research

Andean schools of astronomy and astrophysics Ecuador 2014



 **PRIMERA ESCUELA ANDINA DE ASTRONOMÍA Y ASTROFÍSICA**
Visión moderna de la Cosmología

Instructores:

- Oscar Martínez (México)
- Gustavo Rodríguez (México)
- Fiona Hoyle (Ecuador)
- Jaime Forero (Colombia)
- Juan Pablo Beltrán (Colombia)
- Ileana Andrichow (Argentina)
- Mary Díaz (Brasil)
- Nicolás Vásquez (Ecuador)

Inscripciones abiertas hasta 10 de noviembre 2014

LUGAR :
QUITO 8-12 de diciembre 2014
Escuela Politécnica Nacional

Contacto : 1escuelaandinadeastronomia@gmail.com
<http://departamentodefisiacaeventos.epn.edu.ec>

Auspician:



TF1: Astronomy for Universities & Research

Working Group on Astro-particle Physics



Luis Alberto Núñez
Nunez.luis.a@gmail.com



www.aps.org/units/fip/newsletters/201202/lago.cfm

Sierra Negra in Mexico at 4550 m.a.s.l

Chacaltaya in Bolivia at 5250 m.a.s.l

Marcapomacocha in Peru at 4450 m.a.s.l



Universidad
Industrial de
Santander



Working group on Radio Astronomy



Oscar Restrepo
orestrepog@ecci.edu.co



MARI



Diana Cubillos
dcubillosj@ecci.edu.co



MINI



TF2: Astronomy for Children & Schools

PROJECTS:

- Astronomy for people with physical disadvantages
(leader: Angela Pérez, Parque Explora -Planetario Medellín, Colombia)
- Virtual training sessions for high school teachers
(leader: Enrique Torres, IVIC, Venezuela)



TF2: Astronomy for Children & Schools

Astronomy with all our senses



TF2: Astronomy for Children & Schools



TF2: Astronomy for Children & Schools

Galileo Mobile Constellation 2015 Fabio del Sordo



From left to right: Fabio del Sordo, Eva Ntormousi, Saida Díaz, Pilar Becerra y Germán Chaparro.

picture: Fabio del Sordo / Galileo Mobile

TF3: Astronomy for the Public

PROJECTS:

- New show development for regional planetariums
(leader: Carlos Molina, Planetario Medellín, Colombia)
- Andean regional meeting of “Communicating Astronomy with the Public”
(leader: Farid Char, U. Antofagasta, Chile)



TF3: Astronomy for the Public



<http://www.planetariomedellin.org/>



parque
explora
MEDELLÍN

TF3: Astronomy for the Public

Communicating Astronomy with the public

TOPICS

- Media relations
- Public engagement
- Challenges in astronomy communication



TF3: Astronomy for the Public



**TERTULIA
DE LAS ESTRELLAS A LA RETINA**

*miércoles 6
de abril*
4:00 p.m.
Observatorio Astronómico

Fernando Peña
Médico Oftalmólogo

ENTRADA LIBRE
Previa inscripción

 Observatorio astronómico universidad sergio arboleda
 @LaSergioEsCosmo
 @LaSergioEsCosmos

www.usergioarboleda.edu.co/observatorio
Universidad Sergio Arboleda · Calle 74 14 - 14 Bloque F, piso 10
Info Sergio: 325 8181 · observatorio@usa.edu.co
Bogotá - Colombia


**UNIVERSIDAD
EL BOSQUE**


**UNIVERSIDAD
SERGIO ARBOLEDA**
Observatorio Astronómico



· Observatorio Astronómico
· Escuela de Ciencias Exactas e Ingeniería


**UNIVERSIDAD
SERGIO ARBOLEDA**

**POESÍA Y
ASTRONOMÍA**

*Miércoles 25
de mayo*
6:00 p.m. - 9:00 p.m.
Observatorio Astronómico

ENTRADA LIBRE
previa inscripción

Invitados nativos de diferentes países declamando en su lengua materna



Suecia, China, Colombia, España, Alemania, Gran Bretaña, Irlanda, Japón e Italia.

 Observatorio astronómico universidad sergio arboleda
 @LaSergioEsCosmo
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Bogotá - Colombia

LATIN AMERICAN REGIONAL IAU MEETING (2016) Cartagena , Colombia



Strengths

Culture

Goals

Support

Language



Weaknesses

Personnel

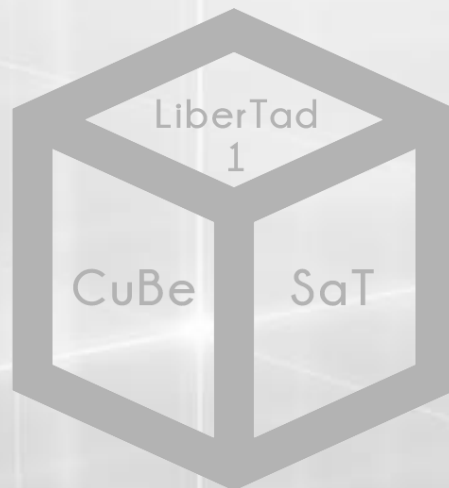
Projects

Standards

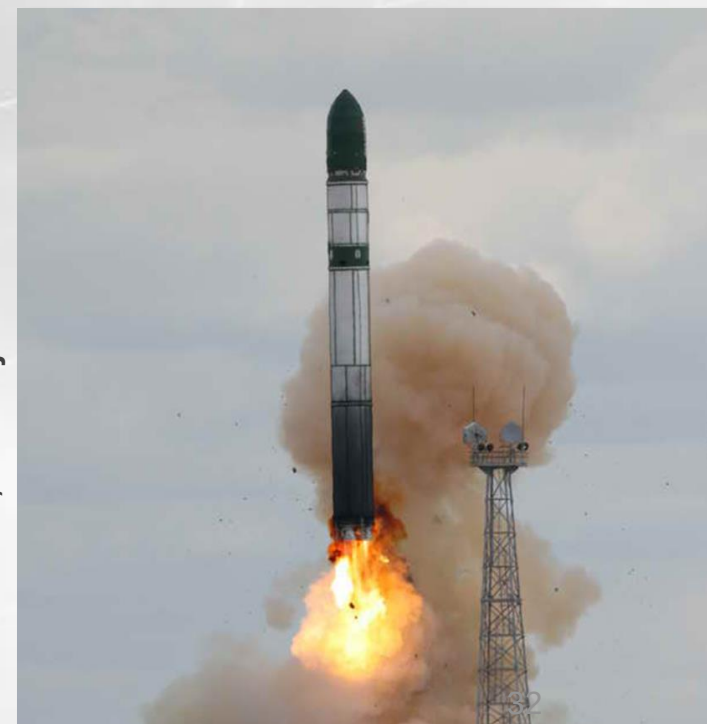
Lack



Access to Space



April 17 2007
Baikonur ; Kasajastan



From Andean Region to Open Universe

1. Further development of activities such as workshops, gatherings and inclusion meetings
2. Use of platforms and technological aids for information exchange and online education
3. Promoting new scientific research in areas like:
 - Near earth objects monitoring
 - Constructing astronomical sites in dark and quiet sites



Thank you,
for your attention

raul.joya@usa.edu.co