

Jaime E. Forero-Romero, PhD  
Assistant Professor  
Physics Department, Universidad de los Andes  
Carrera 1 18A-10, Bloque Ip.  
Bogota - Colombia. A.A. 4976-12340.  
Phone: +571 3394949 Ext. 5183. Fax +571 3324516  
Email: je.forero at uniandes.edu.co

Dr. Kevin Govender  
Office of Astronomy for Development (OAD)  
Cape Town, South Africa

September 12, 2014

**Proposal for the creation of an Andean Regional Office of Astronomy for Development**

Dear Dr. Govender,

The purpose of this letter is to submit a proposal for the creation of the Andean Regional Office of Astronomy for Development (ROAD). If the proposal is successful, we expect to have a functional node starting on January 1st 2015.

This proposal improves upon the first proposal we submitted in September 2013. After its evaluation the committee suggested to clarify the following points:

- The role of Chile in the Node.
- The objectives, leaders and budget for each one of the suggested projects.
- The level of support from the institutions joining the Andean ROAD.

We have addressed these points in this proposal.

The Andean ROAD will encompass six countries: Bolivia, Chile, Colombia, Ecuador, Peru and Venezuela. The main initiative for this proposal has been lead by several institutions in Colombia, Venezuela and Ecuador.

The current state of this proposal is the result of meetings and discussions started in 2012, continued in an Andean meeting held in Bogotá in 2013 and virtual meetings during the year 2014. As a consequence of this intensive interaction some of the projects presented in this proposal (such as the Andean School on Astronomy and Astrophysics) are already ongoing.

In November 2013, during the XIV Latin American IAU Regional Meeting held in Florianópolis (Brazil) we shared the Andean ROAD initiative with all the attendees. This proposal also includes the input from all the people that got interested by the Andean ROAD project.

Attached to this letter you will find the full body of the proposal (16 pages), three support letters on behalf of the people sharing the responsibility of coordinating the ROAD and eleven letters from different institutions supporting the creation of the Andean ROAD.

We look forward to receiving the reply of the OAD steering committee to our proposal.

Sincerely,

A handwritten signature in black ink, appearing to read "Jaime E. Forero-Romero".

Dr. Jaime E. Forero-Romero  
Assistant Professor

# Proposal towards the establishment of an Andean Regional Office of Astronomy for Development

September 12, 2014

## Contents

<b>1 Rationale</b>	<b>3</b>
<b>2 Objectives</b>	<b>3</b>
<b>3 Core Values</b>	<b>4</b>
<b>4 Institutions Supporting this Proposal</b>	<b>4</b>
<b>5 Outline of the main Andean ROAD projects</b>	<b>5</b>
5.1 Task Force 1 (Universities and Research) . . . . .	5
5.1.1 Andean School on Astronomy and Astrophysics . . . . .	5
5.1.2 Andean Graduate Program . . . . .	5
5.1.3 Exploration Working Group in Astroparticle Physics .	6
5.1.4 Exploration Working Group in Radioastronomy . . . .	6
5.1.5 Massive Open Online Courses . . . . .	7
5.1.6 Communication Network . . . . .	7
5.2 Task Force 2 (Astronomy for Children and Schools) . . . . .	8
5.2.1 Periodic coordination sessions . . . . .	8
5.2.2 Virtual training sessions . . . . .	8
5.2.3 Teaching material for visually impaired students . . .	9
5.2.4 Annual TF2 meeting . . . . .	9
5.3 Task Force 3 (Astronomy for the Public) . . . . .	9

5.3.1	Development for planetariums . . . . .	9
5.3.2	Communicating astronomy with the public. . . . .	10
<b>6</b>	<b>Budget</b>	<b>10</b>
<b>7</b>	<b>Governance</b>	<b>11</b>
<b>A</b>	<b>Brief description of the coordinating institution</b>	<b>15</b>
<b>B</b>	<b>Names and affiliations of the committee members for the year 2015</b>	<b>16</b>
<b>C</b>	<b>Support letters for the coordinators</b>	<b>17</b>
<b>D</b>	<b>Letters from the institutions supporting the Andean ROAD</b>	<b>18</b>

## 1 Rationale

The countries in the Andean Region (Bolivia, Colombia, Chile, Ecuador, Peru and Venezuela) represent a common language block in South America. They share similar social conditions and goals for scientific and cultural development.

The astronomical development in each of these countries can be efficiently achieved through regional cooperation. With the leadership of Chile and Venezuela in aspects of professional astronomy and Colombia for public outreach, it is possible to develop strategies to strengthen the professional research, education and popularization of astronomy in the Andean region. This development effort requires the commitment and shared effort from different institutions.

An Andean Regional Office of Astronomy for Development (ROAD) can serve this goal. It will strengthen ongoing collaboration efforts, create channels of communication and develop new strategies to exchange knowledge and human resources in the region.

The participating institutions have been involved in different projects in each one of the ROAD core areas: research, schools and children and public <sup>1</sup>. However, the participation and degree of commitment has not been homogeneous across the region, or even inside the same country.

Therefore our **main goal is to guarantee and strengthen effective methods of communication between the representatives and co-ordinators of global, regional and local projects** implemented in the Andean countries, specially looking to orient and advise new working groups in other cities and regions. This lead us to define the following objectives.

## 2 Objectives

- Foster the goals of the International Astronomical Union (IAU) Strategic Plan in the Andean region

---

<sup>1</sup>For instance, in the outreach and children activities the following programs have been active during the last years: Astronomy Olympiads, Galileo Teacher Training Program (GTTP), the Network for Astronomy School Education (NASE) and Universe Awareness (UNAWE), Galileo Mobile, CERE S'COOL, Rocks Around the World, Eratosthenes, Galileoscope, Dark Sky Awareness, Astronomers without borders, From Earth to the Universe, International Space Week, Galileo Nights and Asteroid Search Campaigns.

- Serve as partner to the Office of Astronomy for Development (OAD), the IAU and other international organizations to plan and implement relevant projects in the Andean region.
- Create public forums where the project management of all development activities can be communicated and evaluated.
- Initiate and coordinate fund-raising activities for regional development activities.
- Create new institutional alliances among countries in the region to exchange knowledge and human resources.

### **3 Core Values**

- Balance. The ROAD projects must have a balance among different areas (research, education, outreach) and target countries.
- Without borders. Priority will be given to projects that involve two or more ROAD countries.
- Transparency. All Andean ROAD projects will be transparent to the public in their conception, execution and evaluation.

### **4 Institutions Supporting this Proposal**

- Sociedad Chilena de Astronomía, SOCHIAS (Chile).
- Escuela Colombiana de Carreras Industriales (Colombia).
- Observatorio Astronómico Nacional (Colombia).
- Planetario de Bogotá (Colombia).
- Parque Explora - Planetario de Medellín (Colombia).
- Universidad Industrial de Santander (Colombia).
- Universidad Sergio Arboleda (Colombia).
- Universidad de los Andes (Colombia).

- Escuela Politécnica Nacional (Ecuador).
- Universidad San Francisco de Quito (Ecuador).
- Instituto Geofísico del Perú (Peru).
- Centro de Investigaciones de Astronomía, CIDA (Venezuela).
- Instituto Venezolano de Investigaciones Científicas, IVIC (Venezuela)

## 5 Outline of the main Andean ROAD projects

### 5.1 Task Force 1 (Universities and Research)

#### 5.1.1 Andean School on Astronomy and Astrophysics

- **Objective:** Organize a school for advanced undergraduate students and graduate students.
- **Leading ROAD Institution:** Changes every year.
- **Contact:** Changes every year.
- **Implementation:** Every year we will hold a school aimed at advanced undergraduate students and graduate students. The main subjects of the school have to be broad enough allowing a large student participation. This venue will also serve as a upstanding scenario to invite tutors from abroad and strengthen new institutional collaborations with the Andean ROAD. The first school will take place in 2014 hosted in Ecuador close to the dates for the Colombian Congress of Astronomy and Astrophysics.
- **Budget:** 10KEuro/year

#### 5.1.2 Andean Graduate Program

- **Objective:** Determine the feasibility of creating and funding an Andean graduate program.
- **Leading ROAD Institutions:** Observatorio Astronómico Nacional (Colombia); SOCHIAS ROAD office (Chile, Oficina Nacional de Coordinación, ONC); Universidad San Francisco de Quito (Ecuador).

- **Contacts:** Giovanni Pinzón, PhD; Eduardo Unda-Sanzana, PhD; Dennis Cazar Ramírez, PhD.
- **Implementation:** Explore the possibility to coordinate the use of educational resources of different institutions in the region. The model for this project is the AstroMundus program in the European Union where a consortium of 5 Universities in 4 Countries offer a Master Program. This research will be done mainly through virtual meetings.
- **Budget:** 0 KEuro/year.

#### 5.1.3 Exploration Working Group in Astroparticle Physics

- **Objective:** Establish a cooperation network of institutions interested in Astroparticle Physics.
- **Leading ROAD Institution:** Universidad Industrial de Santander (Colombia); Universidad San Francisco de Quito (Ecuador).
- **Contact:** Luis Nuñez, PhD; Dennis Cazar Ramírez, PhD.
- **Implementation:** The leading institutions will organize periodic meetings to gather all the groups in the Andean Region interested in developing its research capabilities in astroparticle physics. This will be done through workshops and the installations of small research stations for the Latin American Giant Observatory (LAGO) project, which has already been kick-started in Venezuela, Colombia, Ecuador, Peru and Bolivia.
- **Budget:** 10KEuro/year.

#### 5.1.4 Exploration Working Group in Radioastronomy

- **Objective:** Establish a cooperation network of institutions interested in the development of Radioastronomy.
- **Leading ROAD Institution:** Escuela Colombiana de Carreas Industriales (Colombia).
- **Contact:** Germán Chaparro Molano, PhD.

- **Implementation:** The Leading Institution will organize periodic meetings to gather all the groups in the Andean Region interested in the development of Radioastronomy capabilities. The first meeting is planned for 2015. The Leading Institution will also organize a Training School to build up new capabilities and strengthen the ties between different groups and countries. The first school is planned for 2016.
- **Budget:** 10KEuro/year.

### 5.1.5 Massive Open Online Courses

- **Objective:** Create a Massive Open Online Course at the introductory undergraduate level with sections for the general public.
- **Leading ROAD Institution:** Universidad Industrial de Santander (Colombia).
- **Contact:** Luis Nuñez, PhD
- **Implementation:** We will create a Massive Open Online Course in Astronomy and Astrophysics, that could be used either as a general course for a wide audience or as an introductory course for undergraduate students of Physics programs. Planned for 14 weeks, the course will contain four major blocks: Astronomy and celestial bodies, Instrumentation in Astronomy, Current Trends in Astronomy and Astrophysics, and Data Bases and Data analysis in Astronomy. The first three blocks will be divided in two modules corresponding to two different levels: A and B. General audience could follow the level A for the three modules and physics students should follow whole content of the course. Each module, will have a 15m video, recommended reading and several assignments.
- **Budget:** 10KEuro/Year.

### 5.1.6 Communication Network

- **Objective:** Gather contact information of all TF1 colleagues in the ROAD.
- **Leading ROAD Institution:** Universidad de los Andes (Colombia)

- **Contact:** Jaime E. Forero-Romero, PhD
- **Implementation:** Open a mailing list associated to TF1 activities. This network will serve as a platform to exchange information concerning joint projects, fellowships, scholarships and open positions. There will also be a central web-page for the Andean ROAD showing the current ongoing projects and advances.
- **Budget:** 0KEuro/year.

## 5.2 Task Force 2 (Astronomy for Children and Schools)

### 5.2.1 Periodic coordination sessions

- **Objective:** Strengthen communication strategies between teachers and coordinators from each country
- **Leading ROAD Institution:** Parque EXPLORA (Colombia), IVIC (Venezuela).
- **Contact:** Luz Angela Cubides, Angela Patricia Pérez, Enrique Torres.
- **Implementation:** Hold bi-weekly coordination sessions. They have been held during 2014.
- **Budget:** 0Euro/year.

### 5.2.2 Virtual training sessions

- **Objective:** Create virtual training and activities open to teachers and students.
- **Leading ROAD Institution:** IVIC (Venezuela).
- **Contact:** Enrique Torres, Juan Carlos Arias.
- **Implementation.** Develop a virtual platform to hold virtual workshops on information technologies applied to astronomy and space sciences.
- **Budget:** 1 KEuro/year.

### **5.2.3 Teaching material for visually impaired students**

- **Objective:** Design teaching material to work with visually impaired students.
- **Leading ROAD Institution:** Planetario de Bogotá (Colombia).
- **Contact:** Angela Patricia Perez, Dilia Gonzalez.
- **Implementation:** We start by doing research on the kind of material to develop. Later on we will define the production and distribution processes.
- **Budget:** 1 KEuro/Year

### **5.2.4 Annual TF2 meeting**

- **Objective:** Organize an annual meeting to gather all the collaborators in the Task Force.
- **Leading ROAD Institution:** Changes every year.
- **Contact:** Maritza Arias Manriquez, Jonathan Moncada, Manuel de la Torre.
- **Implementation:** Every year we will hold a meeting aimed at collaborators in the node. The venue will change every year. The first meeting will take place in 2015 with the theme Archeoastronomy.
- **Budget:** 10 KEuro/year.

## **5.3 Task Force 3 (Astronomy for the Public)**

### **5.3.1 Development for planetariums**

- **Objective:** Develop special shows for planetariums in the region.
- **Leading ROAD Institution:** Parque EXPLORA (Colombia).
- **Contact:** Carlos Molina.

- **Implementation:** We want to develop special shows to be projected at planetariums and science museums from the region, highlighting ancestral traditions from indigenous tribes and founding communities from South America. These shows would be shared between the Local and Regional Networks of Planetariums, such as “Asociación de Planetarios del Cono Sur”, and the growing “Red de Planetarios de Colombia”.
- **Budget:** 10 KEuro/year.

### 5.3.2 Communicating astronomy with the public.

- **Objective:** Organize periodic meetings to gather all the collaborators in the Task Force, ”Communicating Astronomy with the Public”.
- **Leading ROAD Institution:** SOCHIAS ROAD office (Chile, Oficina Nacional de Coordinación, ONC).
- **Contact:** Farid Char.
- **Implementation:** We want to hold regular meetings that can serve as an exchange platform for people involved in communicating astronomy to the public; this includes science museums, planetariums, mass media and associated industries. We also want to use this opportunity to showcase efforts in the other two task forces. This meeting will be held parallel to large professional meetings. We envision this event as a ”Communicating Astronomy with the Public”<sup>2</sup> meeting for the region. We expect to hold the first one during the next Latin-American Regional IAU Meeting in 2016.
- **Budget:** 10 KEuro/year.

## 6 Budget

We foresee the following costs per year in each task force.

- Task Force 1: 40 KEuro/year
- Task Force 2: 12 KEuro/year

---

<sup>2</sup><http://www.communicatingastronomy.org/>. The next global meeting for this event will be held in 2016 in Colombia.

- Task Force 2: 20 KEuro/year

The costs are covered by in-kind contributions and proposals submitted for each different project according to its needs.

The seed-funding (5 KEuro) provided by the ROAD central office will be used as follows.

Description	Amount (Euro)
TF1. Small grants (200 Euro each) for students that wish to attend the Andean School for Astronomy and Astrophysics.	1000
TF2. Teaching material for visually impaired students	1000
TF3. Small grants (250 Euro each) for outreach professionals that wish to attend the meeting "Communicating Astronomy with the Public".	1000
Printing and distribution of posters publicizing the Andean ROAD	400
Overhead costs at Universidad de los Andes over the 5000 Euro of seed funding.	1600
Total	5000

## 7 Governance

### Responsible Institution

Universidad de Los Andes (Bogotá, Colombia)

### ROAD Coordinator

Mr. Jaime E. Forero-Romero, PhD  
 Assistant Professor  
 Universidad de Los Andes  
 Calle 18A # 1 - 10  
 Physics Department, Bloque Ip, Of. 208  
 Bogotá, Colombia  
 Tel: (+57 1) 339 4949, Ext. 5183  
 Fax: (+57 1) 332 4516  
 Email: je.forero@uniandes.edu.co

## **Oversight Committee**

The oversight committee will evaluate the Andean ROAD accomplishments. It will be composed by 4 people as follows.

1. OAD Representative: Kevin Govender (South Africa)
2. International TF1 Evaluator: Gustavo Bruzual (Mexico)
3. International TF1 Evaluator: Jan Tauber (Netherlands)
4. International TF2/TF3 Evaluator: Cecilia Scorza (Germany)

## **Executive Board**

The executive board will be composed by 3 people as follows.

1. ROAD Coordinator/ Coordinator Task Force 1. 1 position 20% full time. Jaime E. Forero-Romero (Colombia)
2. Coordinator Task Force 2. 1 position 30% full time. Luz Angela Cubides (Colombia)
3. Coordinator Task Force 3. 1 position 50% full time. Farid Char (Chile).

The institutional letters of support on behalf of Jaime E. Forero-Romero (Universidad de los Andes), Luz Angela Cubides (Parque Explora-Planetario de Medellín) and Farid Char (SOCHIAS) are attached to this proposal.

## **Core functions of the Executive Board**

1. Decide on the acceptance of new collaborators to the Andean ROAD.
2. Create an annual action plan for the Andean ROAD.

## **Organizing committees**

There will be three organizing committees, one for each Task Force. We aim to have one person from each country in the Andean ROAD. Members in that committee must belong to one of the Collaborating Institutions. The ROAD coordinator and the specific Task Force coordinator will also take part in the

decision making process of each committee. The committee members will be renewed every year. The coordinators should stay in their role at most for one year and a half.

## **Core functions of the organizing committees**

1. Collect the basic information required to create annual action plan in line with the IAU Strategic Plan and the needs expressed by the Institutions composing the Andean ROAD.
2. Decide on the priority of projects to be implemented in the annual action plan.
3. Track the progress with the leaders of each project in the annual action plan and the IAU Strategic plan.
4. Pursue new collaborations or organize activities with existing or emerging institutions both domestically (at the level of each ROAD's country) and internationally.

## **Andean ROAD Collaborators**

Only institutions (Universities, Research Institutes, Research Divisions, Planetariums, Museums) or professional associations are considered as collaborators of the Andean ROAD.

Individuals can join the Andean ROAD as volunteers. In this group we in mind four major groups. (1) undergraduate/graduate students in the ROAD countries, (2) graduate students and postdoctoral researchers nationals of the Andean region working abroad, (3) school teachers working in the ROAD countries and (4) any volunteer willing to support the goals of the Andean ROAD regardless of their country of origin.

## **Process to join the Andean ROAD**

Institutions must direct a one page Letter of Intent (LoI) to the members of the Executive Board stating their intention to join the Andean ROAD and naming one (1) person of contact. Once this petition is approved unanimously by the Executive Board, a Memorandum of Understanding (MoU) will be signed between the new collaborating Institution and the Responsible

Institution. In order to accept the application every TF1 institution must have TF2/TF3 partner institution, and viceversa each TF2/TF3 must have a TF1 partner in the same country.

There are three reasons to have these conditions. First, we want to foster lasting processes over the ROAD lifetime; this motivates us to have institutions, not individuals, as ROAD collaborators. Second, we want to avoid previous experiences whereby an individual or an institution act on a covert way on the name of whole national communities; this motivates the two stage (Loi+MoU) process. Third, we want to motivate direct collaboration between institutions with different backgrounds (TF1 and TF2-TF3) to ensure a balance across task forces; this motivates the partnering mechanism.

Volunteers only have to express their interest to become collaborators. They are not limited to live in the Andean ROAD countries. The Executive Board will enable a tool to reach volunteers as they are needed to implement different programs.

## The role of Chile in the Andean ROAD

Due to the large size of the Chilean professional astronomical community and its special role in global astronomy its important to spell out in detail the role of Chile in the collaboration

The most important aspect is that all the interaction to coordinate activities with Chile will be done through the Sociedad Chilena de Astronomia (SOCHIAS) — the society that gathers all the professional astronomers in the country.

SOCHIAS has designated Eduardo Unda-Sanzana as the main contact person for TF1 tasks, Cristian Cortés for TF2 tasks and Patricio Rojo for TF3 tasks inside Chile. Farid Char is a staff member at the Unidad de Astronomía of the Universidad de Antofagasta who will be responsible to interface with the rest of the ROAD countries.

## The case of Bolivia

In Bolivia there is a very small community dedicated to astronomy. We have contacted three people (Mirko Raljevic, Rocío Guzmán and Manuel de la Torre) who will volunteer for the node activities. However, for the moment we do not have any institution joining the node.

# Appendices

## A Brief description of the coordinating institution

Universidad de los Andes (Uniandes) is located in Bogotá, Colombia. It is a private University founded in 1946. Currently it is the top University in Colombia as reported by the QS2014 and Times Higher Education 2013-2014 University Rankings. It also ranks among the top 5 in Latin America and the top 300 on a global scale.

Uniandes hosts a Faculty of Sciences with 5 departments: Biology, Chemistry, Geosciences, Mathematics and Physics. The Physics Department has an active graduate school and also hosts postdoctoral researchers. One of the research groups in the Physics is focused on Astronomy and Astrophysics, composed by 4 Faculty (3 PhD, 1 MSc) with research interests in instrumentation, observational astronomy and computational astrophysics. The Astrophysics Group also manages a small observatory dedicated mostly to outreach and motivating undergraduate students into astronomy.

In July 2013 Universidad de los Andes hosted and gave financial support to the Workshop Astronomía en los Andes <sup>3</sup>. This Workshop received researchers from all the countries participating in this ROAD proposal and also included the participation of the TF2 and TF3 coordinators in the current proposal. This meeting helped us to survey the status of Astronomy in the region and design a blueprint for its development in the region. Submitting the current proposal was one of the main goals of the workshop.

---

<sup>3</sup><http://workshopastronomia.uniandes.edu.co/>

## **B Names and affiliations of the committee members for the year 2015**

### **TF1 Committee**

- Nicolas Vásquez (EPN, Ecuador)
- Giovanni Pinzón (OAN, Colombia)
- Eduardo Unda-Sanzana (SOCHIAS, Chile)
- Kathy Vieira (CIDA, Venezuela)

### **TF2 Committee**

- Enrique Torres (IVIC, Venezuela)
- Cristian Cortés (SOCHIAS, Chile)

### **TF3 Committee**

- Carlos Molina (Parque Explora, Colombia)
- Johnny Cova (CIDA, Venezuela)
- Patricio Rojo (SOCHIAS, Chile)

## C Support letters for the coordinators



Universidad de  
los Andes

Colombia

Bogotá, September 10, 2014  
Dr. Kevin Govender  
Office of Astronomy for Development

Dear Dr. Govender,

The purpose of this letter is to express the support of Universidad de los Andes for the establishment of the Andean Regional Office of Astronomy for Development (ROAD).

Our support has been materialized since July 2013 when we hosted the Workshop "Astronomy in the Andes" to congregate astronomer from all the Andean ROAD countries: Bolivia, Chile, Ecuador, Peru, Venezuela and Colombia. This meeting served as a sort of unofficial kick-off meeting, preparing the way to the ROAD's official creation that we hope will be materialized in January 2015.

Additionally, Universidad de los Andes fully supports Dr. Jaime E. Forero-Romero, Assistant Professor in the Physics Department, in his role as the ROAD Nominal Coordinator as stated in the current proposal. For these duties Professor Forero-Romero can devote eight hours per week, outside his contractual duties at Universidad de los Andes.

We will continue giving our support to this international initiative with the goal to strengthen the networks for scientific research, education and outreach in the Andean region.

Sincerely,



GABRIEL TELLEZ  
Head of the Physics Department



July 30th, 2014

**Dr. Kevin Govender**  
Office of Astronomy for Development  
International Astronomical Union (IAU)

Dear Dr. Govender,

The purpose of this letter is to express our commitment and continuous support towards the establishment of the Andean Regional Node.

Since February of 2013 we officially started supporting the creation of the node by consolidating an initial survey of astronomy education activities conducted in Venezuela, Bolivia, Peru, Ecuador, Chile and Colombia for children and schools (Task Force 2). Additionally, there has been a constant exchange of ideas and a growing network through the biweekly meetings with representatives from the Andean countries. Erathostenes project, amongst other successful experiences, have been initially proposed through the social networks and online conferences lead by the TF2 members.

Moreover, Carlos Augusto Molina (Chief of the Planetario de Medellín) and Luz Angela Cubides (Astronomy coordinator) have devoted a portion of their working hours to consolidate projects and promote a collaborative work strategy with the TF2 and TF3 representatives.

We want to continue supporting this remarkable effort as a stepping-stone to strengthen the education and outreach in astronomy from a regional perspective.

Yours truly,



**ANDRÉS FELIPE ROLDÁN**  
Executive Director  
Parque Explora  
andres.roldan@parqueexplora.org



**CLAUDIA PATRICIA AGUIRRE**  
Director of Education and Content  
Parque Explora  
claudia.aguirre@parqueexplora.org



Facultad de Ciencias  
**UNIVERSIDAD DE ANTOFAGASTA**

Antofagasta, 11 September 2014

Dear Dr. Govender  
Office of Astronomy for Development  
International Astronomical Union

I'm writing this letter to support Dr. Jaime Forero's application for the creation of an Andean Regional Office for Astronomy for Development. As attested by a related letter submitted by Patricio Rojo, President of the Sociedad Chilena de Astronomía (SOCHIAS, Chilean Astronomical Society), Chile will establish a National Coordination Office (Oficina Nacional de Coordinación, ONC) to efficiently deal with matters related to the Andean Regional Office. The ONC will be kindly hosted by Universidad de Antofagasta (Chile), in the North of the country. The first officer in charge of the ONC will be Farid Char, a member of the astronomy staff at Universidad de Antofagasta.

Recently we received support from the European Southern Observatory to partially fund the ONC for one year. This means that we are able to commit 20 hours/week for this role. Universidad de Antofagasta will commit further to enable the ONC to operate.

Regards,



Eduardo Unda-Sanzana  
Director, Unidad de Astronomía  
Universidad de Antofagasta

## **D Letters from the institutions supporting the Andean ROAD**

Dear Dr. Govender,  
Office of Astronomy for Development  
International Astronomical Union

The purpose of this letter is to express the interest of the Sociedad Chilena de Astronomía (SOCHIAS) in Chile on joining and supporting the Andean Regional Office of Astronomy for Development, by establishing a National Coordination Office (Oficina Nacional de Coordinación, ONC).

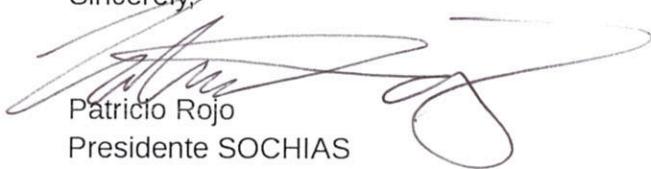
Our participation will be materialized in the support of the following projects mentioned in the proposal:

- Massive Open Online Courses (MOOCS), as supporters (TF1).
- Continuous participation in global projects, as leaders (TF2)
- Teaching resources for children and teenagers, as supporters (TF2)
- Olympiads and Contests, as supporters (TF2)
- Major public astronomy meetings, as leaders (TF3)
- International events, as supporters (TF3)

The ONC will act as a link between the professional (TF1), educational (TF2) and general public (TF3) community, providing assistance and guiding its efforts in the research (TF1) and outreach (TF2, TF3) fields in astronomy, in the aim to integrate and increase the current collaboration between the countries in the Node. Additionally, the main contact for TF1 tasks, can act as leader for the Andean Graduate Program, described on the ROAD Proposal.

We have also agreed to designate to Farid Char, as a representative of our institutions in all the committees associated with the organization and communication activities inside the Andean ROAD.

Sincerely,



Patricio Rojo  
Presidente SOCHIAS



Bogotá, Agosto 11 de 2014

Dr. KEVIN GOVENDER

Office of Astronomy for Development - OAD

International Astronomical Union - IAU

I am writing to authorize Mr. Oscar Alberto Restrepo (MSc), Research Staff Member of the Basic Sciences Department of the Escuela Colombiana de Carreras Industriales (ECCI) to participate in activities pertaining to the Andean Node of Astronomy in the Universities and Research Task Force (TF1).

Mr. Restrepo has the full support of the Basic Sciences Department in the joining of our Institution to the Andean Node, and endorses his (and his team's) expertise in the fields of Young Stars, Spectrometry and Radio Astronomy.

Sincerely,

  
MSc. Alejandro Leuro  
Director of the Basic Sciences Department  
Escuela de Carreras Industriales - ECCI



**UNIVERSIDAD NACIONAL DE COLOMBIA  
SEDE BOGOTÁ  
FACULTAD DE CIENCIAS  
OBSERVATORIO ASTRONÓMICO NACIONAL**

Bogotá, september 11th - 2014

Dear **Dr. Govender**,  
*Office of Astronomy for Development  
International Astronomical Union*

The purpose of this letter is to express the interest of *Observatorio Astronómico / Facultad de Ciencias, Universidad Nacional* in (COLOMBIA) in joining and supporting (in accordance with our capabilities) the Andean Regional Office of Astronomy for Development.

Our participation will be materialized in the involvement of the project **Andean Graduate Program** as leaders and so explore the possibility of creating a postgraduate program in Astronomy that includes other Latin-American countries.

Prof. **Giovanni Pinzón Estrada** has expressed his intention of acting as a representative of our institution in all the committees associated with the organization and communication activities inside the Andean ROAD.

Sincerely,

A handwritten signature in black ink, appearing to read "José Gregorio Portilla".

**José Gregorio Portilla**  
Director  
Observatorio Astronómico Nacional  
Universidad Nacional de Colombia



September 11th, 2014.

**Dr. Kevin Govender**  
Oficce of Astronomy for Development  
International Astronomical Union (IUA)

Dear Dr. Govender:

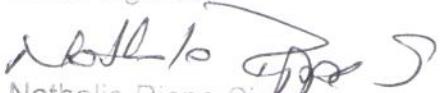
The purpose of this letter is to express our commitment and continuous support towards the establishment of the Andean Regional Office of Astronomy for Development (ROAD).

The Planetarium of Bogotá have made a lot of cultural, educational and scientific recreation with children, youth and adults, and many of their activities are inside and outside their installations such as educational institutions, libraries, houses culture and public spaces, through the physical resources such as space museum, mobile planetarium, conference halls, among many others.

For us is a pleasure to contribute to the consolidation of the andean regional node, through strengthening of the so-called Task Force 2 (TF2) and Task Force (TF3), the which are in accordance with our mission principles. To this end, Alexander Bonilla Rivera (Scientific Coordinator), Germán Puerta Restrepo (Coordinator of Strategic Alliances) and Mauricio Giraldo Buitrago (Missional Coordinator), will devote a portion of their working hours to consolidate projects and promote a strategic collaborative effort of a scientific nature, ludic and pedagogic, whit every individual and institution of Venezuela, Perú, Ecuador and Bolivia, to potentiate, consolidating and developing the is great project.

We wish to contribute to the maximum with this initiative to strengthen the education in astronomy from a regional perspective with global vision.

Best Regards,

  
Nathalia Rippe Sierra  
Manager Planetarium of Bogotá  
District Arts Institute



NIT. 860.351.894-3

Julio 17 de 2014

**DR.KEVIN GOVENDER**  
Office of Astronomy for Development  
International Astronomical Union (IAU)

Dear Dr. Govender

We purpose of this letter is to express our commitment to formally join and continue towards the establishment of the Andean Regional Node.

Since February of this year we started supporting the creation of the node by consolidating the survey of activities conducted in Venezuela, Bolivia, Perú, Ecuador, Chile and Colombia to promote education in astronomy for children and Schools (Task Force 2)

Our University and particularly our observatory, work with ing. Juan Carlos Cuervo in TF2 Activities.

Yours truly

A handwritten signature in black ink, appearing to read "RAÚL ANDRÉS JOYA OLARTE".

RAÚL ANDRÉS JOYA OLARTE  
Astronomical Observatory Director  
Universidad Sergio Arboleda

Paula Y.

Bucaramanga, September 10th, 2014

Dr. Kevin Govender,  
Office of Astronomy for Development  
International Astronomical Union

Dear Dr. Govender

The purpose of this letter is to express the interest of Esc. de Física, Univ. Industrial de Santander in Colombia on joining and supporting the Andean Regional Office of Astronomy for Development.

Our participation will be materialized in the support of the following projects mentioned in the proposal, i.e.

- as leader institution in:
  - Massive Open Online Astronomy Courses and
  - Exploration Working Group in Astroparticle Physics
- as support and collaborating institution in.:
  - Development for planetariums and
  - Andean Graduate Program

I will be happy to collaborate as a representative of our institutions in all the committees associated with the organization and communication activities inside the Andean ROAD.

If you are in need of more details and/or further information about our participation in the node activities, please do not hesitate to contact us.

Yours sincerely,

  
Luis A. Núñez  
Full Professor  
School of Physics  
Univ. Industrial de Santander



Dear Dr. Govender,  
Office of Astronomy for Development  
International Astronomical Union

The purpose of this letter is to express the interest of the Department of Physics of the Escuela Politécnica Nacional in Ecuador on joining and supporting the Andean Regional Office of Astronomy for Development.

Our participation will be materialized in the support of the following projects mentioned in the proposal

- First Andean School of Astronomy and Astrophysics as leaders.
- Exploration Working Group in Astroparticle Physics as support
- Exploration Working Group in Radioastronomy as support.
- Massive Open Online Courses
- Andean Graduate Program
- Annual TF2 meeting
- Development for planetariums

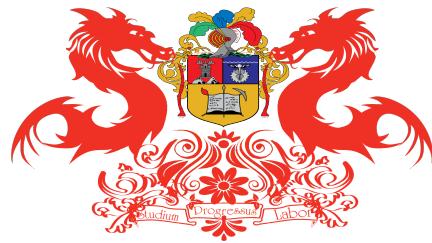
Additionally, we will be collaborating with the following outreach institutions in Ecuador that will also joint the Andean ROAD:

- Planetario del Instituto Geográfico Militar del Ecuador
- Planetario de la Armada del Ecuador

We have also agreed to designate Nicolás Vásquez as a representative of our institution in all the committees associated with the organization and communication activities inside the Andean ROAD.

Sincerely,

Dr. Nicolás Vásquez Pazmiño  
Associate Professor  
Department of Physics  
Escuela Politécnica Nacional



UNIVERSIDAD SAN FRANCISCO

Quito, September 8 2014

Dear Dr. Govender,

Office of Astronomy for Development  
International Astronomical Union

The purpose of this letter is to express the interest of Universidad San Francisco de Quito in Ecuador on joining and supporting the Andean Regional Office of Astronomy for Development.

Our participation will be materialized in the support of the following projects mentioned in the proposal

- Andean Graduate Program as support
- Exploration Working Group in Astroparticle Physics as leader

Additionally, we will be collaborating with the following outreach institutions in Ecuador that will also joint the Andean ROAD:

- Escuela Politécnica Nacional
- Observatorio Astronómico de Quito

We have also agreed to designate Dennis Cazar Ramírez as a representative of our institutions in all the committees associated with the organization and communication activities inside the Andean ROAD.

Sincerely,

Dennis Cazar Ramírez PhD  
Full time Professor  
Universidad San Francisco de Quito



PERÚ

Ministerio  
del Ambiente

Instituto  
Geofísico del Perú

Dear Dr. Govender,  
Office of Astronomy for Development  
International Astronomical Union

The purpose of this letter is to express the interest of the Astronomy Area of the Instituto Geofísico del Perú (IGP) in Perú on joining and supporting the Andean Regional Office of Astronomy for Development.

Our participation will be materialized in the support of the following projects mentioned in the proposal:

- (TF1) Andean School on Astronomy and Astrophysics (support).
- (TF1) Communication Network (support).
- (TF1) Andean Graduate Program (support).

Additionally, our area is supporting outreach activities through the Planetario Nacional Peruano-Japonés “Dr. Mutsumi Ishitsuka Komaki” (IGP).

We have also agreed to designate Dr. Nobar Octavio Baella Pajuelo as a representative of our institution in all the committees associated with the organization and communication activities inside the Andean ROAD.

Sincerely,

Ph.D. José Ishitsuka  
Investigador  
Área de Astronomía – IGP

Dr. Antonio Pereyra  
Investigador  
Área de Astronomía – IGP

Dr. Nobar O. Baella  
Investigador  
Área de Astronomía - IGP

Mérida, September 10<sup>th</sup>, 2014

Dear Dr. Govender,  
Office of Astronomy for Development  
International Astronomical Union

The purpose of this letter is to express the interest of Centro de Investigaciones de Astronomía (CIDA) in Venezuela on joining and supporting the Andean Regional Office of Astronomy for Development.

Our participation will be materialized in the support of the following projects mentioned in the proposal

- Andean School on Astronomy and Astrophysics, as support.
- Massive Open Online Courses, as support.
- Andean Graduate Program, as support.

Additionally, we will be collaborating with the following outreach institutions in Venezuela that will also joint the Andean ROAD:

- Instituto Venezolano de Investigaciones Científicas (IVIC)

We have also agreed to designate Kathy Vieira as a representative of our institution in all the committees associated with the organization and communication activities inside the Andean ROAD.

Sincerely,



Katherine Vieira  
Assistant Researcher  
CIDA

Dr. Kevin Govender

Oficina de la Astronomía para el Desarrollo - OAD

Unión Astronómica Internacional (IAU)

Yo, Leonardo Sigalotti, jefe del centro de Física del Instituto Venezolano de Investigaciones Científicas IVIC , por medio de la presente autorizo al Sr. Enrique Torres coordinador de la Unidad de Divulgación y Socialización de la Física en este centro para que realice labores eventuales concernientes a las actividades del Nodo Andino de Astronomía en el aspecto educativo (Task Force 2) y/ o divulgativo (TF3), en su horario laboral.

Así mismo avalamos el trabajo en esas áreas que el Sr. Torres ha realizado tanto en esta como en anteriores instituciones científicas mediante el cual ha promovido ampliamente la astronomía en niños, jóvenes y público en general con programas como: Universe Awareness, Galileo Teacher Training Program, Astrobús, Revistas de Astronomía para Niños, Materiales para la didáctica de la astronomía, cursos, talleres, conferencias, programas de TV, entre otros.

Atentamente.

  
Dr. Leonardo Sigalotti  
Jefe del Centro de Física  
Instituto Venezolano de Investigaciones Científicas IVIC

