



UNIVERSIDAD DE  
COSTA RICA

# Outreach, Met Ed of public and motivation of prospective students

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## By Meteo Students for future Meteo Students

There is a group of very vibrant and active students in the undergraduate program of Meteorology and Physics. Both programs share many courses and students often pursue both carriers simultaneously developing profound friendships on the way. The School of Physics along with the Student Association of Physics and Meteorology have participated during the last two years of activities and fairs to better show what the life of our students is like and motivate others to join the programs.

Students usually contribute with their creativity towards the success of the activities. Active student participation is the key to success during the fairs and activities as they are highly motivated and engaging others is part of their social skills.

This photograph was taken during the 2016 Vocational Fair. Inside this group there are first year students as well as students that are about to graduate.



One of the favorite activities carried out during the fair is the "artificial cloud experiment". This cloud is everyone's favorite as it initiates with a loud explosion that ends up with a large cloud flying around.

In the photograph the second year student Yoselin Campos just finished the demonstration and is enjoying the experience.

Appropriate training has been given to all those who participate actively of this show. Students are usually subject to assist during a couple of events and then trained for two hour on safety and performance before they are given the chance to generate the cloud.

Every student that had the change of being a cloud generator loves the experience and motivates others to achieve it.

The "cloud generating experiment" is a simple demonstration that engages students and entertains the public. During the preparation the public learns from a senior student or a professor about the Physics associated with the demonstration and in the real clouds. The necessary materials is just hot water, liquid nitrogen, safety equipment, appropriate footwear and containers.

Every year the University carries out the Vocational Fair for prospective students. During this fair thousands of high school students come from all over the country and even from other countries to get a first hand feeling of the University and its programs.

The School of Physics have increased and improved its participation in recent years in order to better motivate prospective students and show them many of the instruments and attractions that Physics and Meteorology have to offer.

The photographs show prospective students learning about reflection and charged particles. Usually they are encouraged to play around with the hardware and after a while a student and/or professor will join the group and contribute the science behind the phenomena.



There are several ways the University of Costa Rica uses to reach out to the community and the public. Student participation is the key to obtain good results as they can be motivated and engaged in a way that better transmit the messages.

In this presentation some fairs and activities carried out at UCR are displayed on the left. This includes a photograph of one of the best attractions that we do at the activities and students have named the "cloud generating experiment". On the right side of this presentation three different panes are shown. The top pane is about a regional activity to get professors from different areas to interact directly with the agricultural producers of the northwestern region of Costa Rica. The middle pane contains the student's opinions and comments regarding their active participation. The bottom pane is about a new initiative to educate and provide training material to High School educators.

## Reaching out to the community



The University of Costa Rica is the largest of the country. Interdisciplinary activities take place often to inform the communities about our research and its products. The agricultural sector is always interested in what new techniques can be used to improve crop yields and quality, what new seeds the Biology and Agronomy department have been working on, and what the weather will be like during the next few months.

The photographs on the left were taken during the Second Day of the Guanacastecan (northwestern part of Costa Rica) Agricultural Producer that took place last year. During this event small and medium size producers attended scientific talks regarding topics of interest and shared some quality time with the University researchers and personnel.



Regarding the participation of professionals from the Department of Atmospheric, Oceanic and Planetary Physics three professors attended the activity. Dr. Erick Alfaro, Dr. Hugo Hidalgo and Dr. Marcial Garbanzo participated of the talks and got involved in the direct discussions. It was a surprise to the attendees that during Dr. Hidalgo's talk it was mentioned that the amount of rain measured in the region has not changed, but the type of precipitation has changed.

## Student opinions regarding their participation

I like informing the public about topics that are sometimes not well understood, as well as cheering students and inform them about the carrier. -María Viquez

Knowing that there is a chance that I influence someone to have more interest in the area is very important. -Oscar Solera

It is good to get the public closer to experiments and demonstrations by involving students and professors. Among students it is great to spend time with someone that shares the passion for the field and together break stereotypes. -Teresa Obando

I love my carrier and talking about this to prospective students gets me excited every time. It is a great opportunity to learn outside the classroom and the day to day of the program, getting to know better the professors that we have along the way. -Natalia Luna

It provides opportunities to show to the public that science is impressive and fun. To participate is to show future students how fun and useful can be to pursue a carrier in meteorology or physics despite the challenges and effort required. -Frank Martínez

It helped me to grow as a professional and in social aspects as during fairs we relate more to our peers. -Yirlen Arias

## Educators at High School levels

The University of Costa Rica has a way to give back to the community requiring that every student, before finishing any program, needs to complete a number of hours of community service. This way to give back is called the University Communal Work, and requires 300 hours for an undergraduate program and 150 hours for a graduate program.

Currently a pilot program with one student is creating short courses for high school educators. This short courses will (among others) update the knowledge that the educators use to teach meteorology and physics by providing them with fliers and presentations of the appropriate topics. This courses will also be used to make the public aware of the danger zones during active weather and the appropriate measures to be taken under those circumstances.