



# ACCESSIBLE SCIENCE INITIATIVE



2011



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THE UNIVERSITY OF BRITISH COLUMBIA



## ACCESSIBLE SCIENCE INITIATIVE

Accessible Science Initiative (ASI) is a new non-profit, student led organization funded in 2009. ASI is currently working under the Liu Institute for Global Issues at The University of British Columbia (UBC). ASI aims to create capacity building initiatives that promote and improve science education and scientific research in low and middle income (developing) countries. By encouraging and supporting youth to explore natural sciences through education, technical support, and knowledge exchange, ASI hopes to close educational gaps that exist in developing countries. Furthermore, ASI anticipates that encouraging interest in science will translate into a larger locally developed, sustainable science sector that can seek to improve health and socio-economical outcomes by targeting research and development towards issues of concern to local populations.

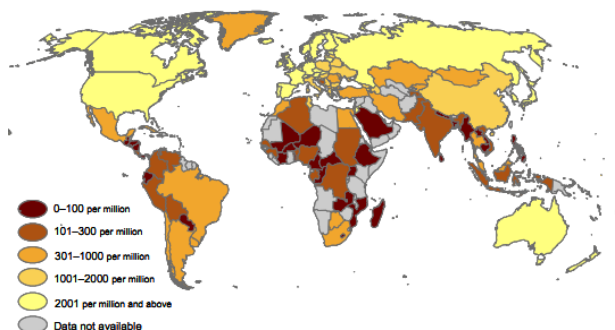


Figure 1 Global Research Densities – Researchers per million inhabitants 2007 or latest available year (UNESCO – Institute for Statistics, September 2009)

## COLOMBIAN PILOT PROJECT

ASI has recently initiated its first pilot project in Tolima, Colombia, in collaboration with the University of Tolima (UT) and high schools within the region. The goal of this project is to build institutional capacity, by providing the UT with the training and materials necessary for sustainable science education and research programs. Hopefully, with ASI’s help the University of Tolima can become an example for other public universities in low-income regions of Colombia and Latin America, as well as a paradigm for future projects in other developing regions such as Southeast Asia, the Middle East, and Africa. This will be possible through our three pillars: Education, Knowledge exchange and Technical Support.

### EDUCATION

#### At High School level:

#### Promoting and enhancing an interest for Science in the Youth:

- **School Teachers Workshops:** Produced and prepared by ASI-UBC student volunteers (Graduate Students) from Faculty of Education and Science, this workshops was delivered to school teachers from approximately 40 different schools in the region of Tolima-Colombia with the help of Faculty of Education



Professors from UT. During this, different tools and discussions were made to increase the possibilities of promoting science in a more fun, interactive and easy to learn environment.

- **Interactive Science Manual:** written, translated and edited by ASI-UBC Student volunteers (mainly Graduate Students), this manual contained close to 30 hands-on Science activities based on the Colombian curriculum for Junior High and High School students. These activities were also chosen based on culturally relevant subjects and adapted to be made with easily accessible materials. This manual was distributed among school teachers to be used as a guide to prepare science classroom activities, making science fun and interactive.
- **Science Week:** Different science activities from biology, chemistry and physics were delivered to close to 1000 students from approximately 40 different schools in the Tolima Region in Colombia. These were prepared and delivered by ASI-UBC student volunteers in collaboration with student volunteers from the University of Tolima.
- **Scientific careers introduction talks:** Inspirational talks based on experiences and advices from science undergraduates and graduate students from UBC and UT

were given to high school students in Tolima with the main objective to give first-hand information about what is to study a science degree. Similarly, in this talk, information was given about what a scientific career is, tips about how to prepare for it from an early stage, and the importance of developing leadership skills to be successful in the process.

### At University Level

#### **Promoting learning experiences for University of Tolima – Science Students:**

- **Enhancing the volunteer spirit in University of Tolima students:** Students were trained to work in different activities organized by ASI, integrating them and motivating them to work and be involved in extra-curricular activities that enhanced their teaching and leadership skills for the future.

#### **Supporting Research Capacities at University of Tolima:**

- **Interviews with UT researchers:** Researchers at University of Tolima were interviewed to know more about their scientific work, future directions and main obstacles through their careers. This primary information may help to promote future collaborations with UBC researchers in different science areas.



### At the General Public level:

- **Symposium “Ciencia para todos” (“Science for everyone”):** The main objective of this activity was to raise awareness among the general public (mainly parents) and local government officials about the importance of science. By presenting (in lay language) examples of local scientific research done at the University of Tolima and other national and international universities such as UBC, it was explained how enhancing science education, research and biotechnology can help to solve health and social issues.

provided materials and equipment such as elementary microscopes, which are essential to develop different interactive science activities. School teachers have access to the resource centre to prepare those science activities.

### At University level:

- **Improving Research capacities:** Our long term goal is to assist in the improvement of research capacities by collecting and sending new and gently used equipment not only from UBC, but also from other institutions around Vancouver and biotechnology companies, to the University of Tolima.

## TECHNICAL SUPPORT

### At high School Level:

- **Creating a School Resource Center:** Discussions with school teachers and professors at the University of Tolima indicated that one of the major problems that exist in their facilities is the lack of materials and equipment necessary to develop proper science teaching and research. ASI decided to start supporting this pillar by creating a “Resource Centre for Schools”. This centre is meant to be located at the University of Tolima. With the help of sponsors and supporters, ASI

## KNOWLEDGE EXCHANGE

- **Creating a network of support connecting High Schools, University of Tolima and UBC:** Students and teachers from high schools in Tolima will be supported and helped by students and professors from the UT, who at the same time, will be supported by UBC students and professors. This will produce a strong network that will contribute to enhance science education and research programs in the region. This was initiated by creating a database where all members are connected and reached electronically.



- **ASI Conference at UBC:** “Science without borders” consists of a series of seminars given by international researchers. This event aims to increase awareness among researchers at UBC about the achievements of researchers in low-middle income countries and the challenges they have encountered during their careers. This will enhance possible collaborations and/or partnerships among them.

#### RESULTS OF THE FIRST PHASE: LAUNCHING THE COLOMBIAN PILOT PROJECT

After a whole year of preparation, planning and fundraising, a team of volunteers travelled to Tolima, Colombia with the expectation of fulfill most of the proposed goals. After 3 weeks of intense work, the team:

- delivered workshops to around 100 school teachers, to whom the Interactive Science Manual (created by ASI) was introduced and distributed,
- worked with close to 1000 junior high and high school students during the ASI-Science week,
- interacted with around 40 volunteers from University of Tolima (UT), who were crucial in the development of the science week

activities and got actively involved on the ASI pilot project,

- learnt what the UT is doing in terms of science research through interviews and visits to their research facilities,
- delivered lab equipments and materials to high schools in need, and to the University to place the first seed of a possible Science resource center,
- had a great success with the ASI-UBC-UT Symposium getting an audience of around 450 people from the Tolima Community. The symposium aimed to inform (in a lay language) about the currently research projects taking place in UT and UBC related to specific local issues.
- Additionally, the ASI volunteer team was able to interact with the community and have some cultural exchange.

For more information about the Accessible Science Initiative project, please visit [accessible-science.org](http://accessible-science.org)



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