

Global Young Academy
Young Scientists Ambassador Programme



Ambassador:
Caradee Wright

Country of Origin:
South Africa (developing country)
Country of Destination:
Réunion Island, France (developed country)
Time of Visit: April 24th - May 1st, 2011

Mission Report

YSAP Activities.

- (1) Engage with researchers at Le Laboratoire de l'Atmosphère et des Cyclones (LACy) at the University de la Réunion, in St. Denis de La Réunion, through an exciting linking of atmospheric physics and public health.
- (2) Excite and encourage a class of secondary school science and geography students to pursue a science-based career; and connect them to a class in South Africa (at the school where I am the Patron of the Geography Faculty).

Background. In 2010, a research project was initiated between South Africa and Réunion Island, France to co-ordinate and work together for investigating the structure and dynamics of the atmosphere by using different in-situ, space-borne and model simulation techniques. The project focuses on scientific themes aimed at obtaining a better understanding of southern tropics / subtropical areas, including:

- Atmospheric pollution and climate change in southern Africa
- Tropospheric ozone and aerosol studies over the Indian Ocean Region
- Greenhouse gas measurements
- Middle atmosphere dynamics and thermal structure: comparative studies from LiDAR datasets
- Water vapour cycle in the Upper Troposphere-Lower Stratosphere
- Stratospheric ozone variability, transport and mixing processes in the southern tropics: a French-South African observation and research network

The project aims to strengthen the research collaboration between participating countries to understand the aerosol and cloud characteristics in the sub-tropical Southern Hemisphere. Globally, the subtropical Southern Hemisphere region is the least understood due to the lack of ground-based remote sensing instruments. In 2010, it was agreed that solar UV radiation measurements would be used for public health studies through a human health risk assessment to compare health risks in Réunion and South Africa. This research project, including a series of interactions and exchanges between developed and developing countries fulfilled the YSAP objective of a non-traditional intellectual exchange. The second YSAP activity entailed a non-traditional educational initiative. In September 2010, I was asked to be the Patron of Geography at a local high school, St Mary's Diocesan School for Girls (DSG), in Pretoria, South Africa. This role entails engaging with school teachers as well as linking school geography to the 'real world' through different activities. On the 17th March 2011, a group of 11 students spent the day on the CSIR Pretoria campus and we visited a boundary layer wind tunnel, carbon dating laboratory, LiDAR laboratory and microbiology laboratory. In May 2011, the students will become part of a fieldwork team to carry out air quality measurements in the Pretoria road tunnel in a research project collaboration between the CSIR and the University of Pretoria. The discipline of Geography fosters an understanding of geographical, spatial and temporal differences on Earth. What better way to express these differences than linking two classes on different time zones, in different socio-economic climates and from different cultural backgrounds? An exchange of what constitutes each class's immediate geography experiences, interests and ideas will open their eyes to a larger world than the one they currently exist within.

YSAP Activities, St. Denis de La Réunion.

(a) University de la Réunion Visit

On 28th April 2011, a group of atmospheric science researchers and technicians from LACy gathered together to listen to a presentation which I had prepared about the planned study entailing a human health risk assessment of solar ultraviolet (UV) radiation in Réunion and South Africa. This was the first time that measured ambient solar UV radiation data would be used in a health study of this kind in Réunion. An interesting and productive conversation was had after the presentation and in the days that followed regarding ways to validate the measured solar UV radiation data and obtain necessary health statistics. A team of researchers from both countries will work together to carry out the analyses in the coming months. A copy of the proposed research project presentation is available as a pdf file.



University of Réunion building housing LACy

(b) Oasis College (Secondary School) Visit

On the 15th April 2011, I visited the Geography students at St Mary's DSG in Pretoria. I had asked the students to prepare a short video for my trip to Réunion. I asked them to try to show in a short video what they think geography in South Africa is, and what it means to them. I suggested that they use visual and audio material as much as possible since the Réunion children would only speak French. I collected this DVD from the DSG students and took it with me on my visit to Réunion.



Caradee at Oasis College

On the 27th April 2011, I visited Oasis College in Le Port, Réunion. A colleague from South Africa, Prof Siva Ventakaraman, introduced me to his friend, Mr Lawrence Ignace, a teacher

at Oasis College. Before my visit, I had provided Mr Ignace with a letter requesting permission to carry out the YSAP activity at Oasis College.

While at Oasis College, a secondary school, I visited 3 classes of students: 2 O-level classes (average student age was 15 years) and 1 class of students with an average age of 12 years. Introductions were made, explaining my purpose as a Young Science Ambassador, and then I showed them the video made by the South African students. A copy of the video is available.

I then answered their questions about South Africa, before asking them 4 questions:

1. Why is living on Réunion so special to you?
2. What is your favourite place to visit on Réunion?
3. What do you want to be when you grow up? Does anyone want to be a Scientist or Researcher? Why do you think science and research is important for Réunion?
4. The South African students would like to know what music you listen to and what are your favourite foods?

Here is a summary of the Réunion students' answers:

1. "There are beautiful beaches and mountains on the island."

"There is a cultural mix of people living here."

"The island has a good climate."

"The island is unique with a circular chain of mountains and two volcanoes, one extinct and one dormant."

"The island is more developed than many of the surrounding islands; however, there is still a good sense of tradition."

"We love the music, maloya, sega."

2. "The volcanoes, beaches and mountains."

3. Few students knew what they wanted to be when they grew up, and given their age, this is understandable. When asked whether they thought science and research was important, they acknowledged that it was because it helped to solve problems. Unfortunately, out of the 3 classes visited, only one student mentioned (or was brave enough to mention) that they would like to pursue a career in science or research.

4. The students agreed that their favourite food is a local, traditional dish made with tomatoes and sausages. Many students said, 'take-away food, MacDonald's, pizza.' Almost

all the students across all ages said that the local music, maloya, was their favourite type of music. A few students said rap, hip-hop and soul.

My personal thoughts after visiting the Réunion classes was that few students know what science, social science and research really means as a career and why these careers are important. Of course, it was a challenge that the students' native language was French and I spoke in English with translation assistance when needed by the class teacher. I asked the Réunion students whether they would like to go to university and they unanimously agreed, which is a positive sign. I was given a DVD of their school music concert to take back with me to South Africa to show the South African students. I was not permitted to take photographs of the students.

Upon my return to South Africa, I will meet with the South African students, show them the Réunion school music concert DVD and discuss the Réunion students' answers to my questions with them. The two teachers, Ms Jacqui Brown (South Africa) and Mr Lawrence Ignace (Réunion), have been introduced and will continue to communicate in the future.

Caradee Wright
April 29th, 2011