

Main achievement for the International year of Astronomy 2009 in Gabon

Signing of a strong partnership between **NOMMO ASTRONOMIA** and the most ambitious learning centre in Libreville. The partnership will see both entities share resources and manpower in promoting astronomy, space sciences, new technologies of information & communication for the 10 coming years in Gabon. By being one of the best resourced learning centres in Libreville (capital of Gabon), it will provide **NOMMO ASTRONOMIA** and the whole national node with the ideal focal point for organizing any suitable event from Teacher training workshops to large scale star gazing nights and conferences for a large and wide public.



1. Background and Committee

Astronomy as a powerful tool for science awareness is a known fact all over the world. We planned to tap on that in keeping in line with the theme for Africa, namely *Astronomy for Education*. Education in its broader sense. Also of interest is the fact that African pre-history exhibits strong ties between the African continent and the heavens. From Pharaonic Egypt to Dogon cosmology with a continuity today observable in Gabon.

In Gabon, a flexible National Steering Committee was set up. The driving force was **NOMMO ASTRONOMIA**, the (legalized) Association for Astronomy & Space Sciences in Gabon. The field of Astronomy is new. Few institutions and individuals are involved at the professional level. The subject is introduced at two levels of entrance in high schools curricula. No Astronomy course/module is formally offered at University level.

At High school level, astronomy & space science related concepts are taught :

- at first year level in High School (embedded in Geography);
- at third year level in High School (The Solar System);
- Final Year of High school as an illustration of a chapter about Newton Laws.

At the Higher Education level, an introductory module is offered to those being trained as future Science Teachers at the (unique) Teacher Training School of Gabon. No standalone module is yet given at University level.

Of interest is the existence in Gabon of a ground station – NKOLTANG – particularly effective in the European Space Agency satellite launch program. It is used in the follow up of Ariane rockets launches from Kourou in French Guyana. One future plan is to take full advantage of the involvement of Gabon in the European space Program.

The National Steering Committee is still growing with new stakeholders joining as time goes by. The core is composed as follows :

- Dr. Medard MOUELE is one central node to the local community of scholars involved in Humanities as well as to different government and non-government organizations. Dr. MOUELE is also Secretary General of **NOMMO ASTRONOMIA**
- Mr Fernand LEPOKO is a Professional in the Media & Film industry. Mr. LEPOKO is treasurer of **NOMMO ASTRONOMIA**.
- Mr. Patrice OKOUMA* is Head of **NOMMO ASTRONOMIA** and Single Point of Contact for Gabon for IYA2009. He is one central node to the local educational community as well as to different government and non-government institutions both locally and internationally.

Firm institutional involvement is also on the increase :

A formal partnership was signed between **NOMMO ASTRONOMIA** and the most ambitious learning centre in Libreville. The goal is to couple the resource of both structures to boost astronomy, space science, new technologies of Information & communication in Gabon and beyond.

2. Vision (in line with IYA09 vision for Africa)

The vision for IYA09 was to help the citizens of Gabon rediscover and strengthen a personal sense of wonder, discovery and an appreciation of the Universe through astronomy. Strengthen national strategies of education through the use of Astronomy. Get involved at the African and global level in strengthening Astronomy and science literacy in general. The global plan for the 10 coming years is set in the following table. The second table referred to what was done is highlighting the projects materialized and attempting to quantify some of them.

Target	Objectives	Intended actions	Impact
A. Schools	A.1. Educational Resource Development and Distribution	Wide distribution of high quality (curriculum related) resources for educators, learners and educator trainers	Widespread access by schools to high-quality resources
	A.2. Educator Development	Educator workshops, enhanced educator training programs, incentives, motivational talks	Motivated and capable educators; An expanded team of people promoting astronomy
	A.3. Learner Development	Learner workshops, facility visits, school visits, astronomy clubs	Motivated and capable learners An expanded team of people promoting astronomy
	A.4. Promotion of Astronomy Related Careers	Selected career expos; university student events; talks by scientists/role models; career magazines	Greater interest in and awareness of astronomy and related careers
B. Universities	B.1 Promotion and encouragement of postgraduate studies	Student information sessions; attractive postgraduate funding	Larger number of postgraduate students resulting in larger research community
	B.2 Encouragement and support of Physics/Astronomy related student bodies	Inter-university links and projects through student bodies; competitions and incentives.	Strong student community supporting each other and organized enough to drive big projects
	B.3 Equipping of universities with necessary basic infrastructure and resources	Sourcing of telescopes for all universities; Equipping libraries with astronomy related books and softwares	Sufficient resources available to encourage students to study astronomy (or at least science, engineering or maths)

**Report for the International Year of Astronomy 2009 (IYA09) in Gabon
and ways forward for Beyond IYA09**

C. Public	C.2. Public Resource Development and Distribution	Posters, popular science magazines, planispheres, telescope kits, flyers	Interest in astronomy generated amongst public and fed by resources
	C.2. Astronomy communication capacity building and implementation	Training for astronomers in communication skills; astronomy training for journalists (science writing); astronomers "on stage"	More astronomers available for media interactions; Greater accuracy of astronomical content in media An expanded team of qualified people promoting astronomy
	C.3. Public programs and events	Facility tours of carefully monitored quality; public lectures; open nights; star parties; development of visitor centers; off-site activities e.g. "street astronomy"	Generate an interest in and excitement about astronomy amongst the public
	C.4. Astronomy in the Media	media presence (TV/Radio) at major events; database of available astronomers for media; train scientists to talk to media	Visibility of astronomy increased through media and greater interest generated amongst the public
D. Government and community leaders	D.1. Astronomy education and information targeted at leaders	Free facility visits (open invitation); basic astronomy course targeted at leaders	National and local leadership that are well informed about astronomy; empowerment of leaders with (indigenous and scientific) astronomy knowledge
E. Africa and abroad	E.1. Sharing of intellectual property and project specific collaborations	Distribution of electronic and "sample" materials that have been developed at various institutions; invitations to events; support and mentorship where requested	Strong international collaborations; Mutual assistance

3. Theme (same as IYA09 theme for Africa)

Astronomy for Education

NOMMO ASTRONOMIA
Association for Astronomy & Space Sciences in Gabon
B.P 3360, Libreville (Gabon)
<http://ama09gabon.weebly.com>

4. Core Mission

Scientific Renaissance of Gabon & Africa

5. Guiding Principles:

- 5.1. Inspire a culture of appreciation of the day- and night-time sky.
- 5.2. Strengthen science literacy
- 5.3. Encourage some form of sustainability beyond 2009.
- 5.4. Encourage collaboration both nationally and internationally.
- 5.5. Support and enhance rather than reinvent programs.



Star gazing night in the dark outskirts of Libreville (Capital of Gabon). This is one of the intended site for Essassa astronomical observatory. A site also suitable for hosting a mobile planetarium.



From Libreville,
the Moon through a Celestron
650 NexStar 130 SLT GoTo,
and a SONY DSC-S930 Cyber
shot camera.

Beginning of day 1,
second campaign of star gazing,
Libreville



6. What was done during the International Year of Astronomy 2009:

Given a non optimal level of resources, In 2009, some seed activities and initiatives were carried by the National Node under the driving power of **NOMMO ASTRONOMIA**. The core of these was an **exhibition** titled “*Of Astronomy and Sciences*” transformed early into a mobile exhibition targeting some of the learning centers of Libreville, capital of Gabon. The following table gives a summary of these initiatives.

Target	Objectives	Examples of Actions	Impact	Tasks done & some numbers
A. Schools	A.1. Educational Resource Development and Distribution	Wide distribution of high quality (curriculum related) resources for educators, learners and educator trainers	Widespread access by schools to high-quality resources	We held a mini-exhibition in Nelson Mandela public High School in Libreville. Public lectures were given, posters on the solar system exhibited. A semi-professional telescope was also available. The whole event was attended by an approximate total of 100 pupils from that school, accompanied by their teacher.

NOMMO ASTRONOMIA
Association for Astronomy & Space Sciences in Gabon
B.P 3360, Libreville (Gabon)
<http://ama09gabon.weebly.com>

The pupils decided to launch and maintain a club of Astronomy & Space Science in their High school. A network of science teachers for astronomy & space science was also set up in the same high school. It is led by the head teacher of the

				<p>Copies of a set of cds & DVDs were donated to the science teachers network to ease their mentoring of the astronomy club</p> <p align="center">*****</p> <p>We held a mini-exhibition in Berthe & Jean High School (BJHS) in the outskirts of Libreville. The latter is one of the most ambitious learner centre in Libreville. It hosts some of the most modern facilities for promoting science & technologies in Libreville. Public lectures were given. Posters about the solar system were on show. The whole event was attended by an approximate total of 300 pupils from that school (the whole school). Star gazing nights were organized.</p> <p>A network of science teachers for astronomy & space science was also set up in the same high school. It is led by the leader of the physics Department.</p>
--	--	--	--	---

**Report for the International Year of Astronomy 2009 (IYA09) in Gabon
and ways forward for Beyond IYA09**

				Copies of our set of cds & dvds were donated to the science teachers network to ease their mentoring of the astronomy club. We entered into a long term partnership with BJHS for astronomy, space science, new technologies of communication & information. The partnership was signed between the Head of the centre and the Head of NOMMO ASTRONOMIA.
	A.2. Educator Development	Educator workshops, enhanced educator training programs, incentives, motivational talks	Motivated and capable educators; An expanded team of people promoting astronomy	Small scale activities of introduction to astronomy 7 space sciences were held for Science teachers, specifically in Berthe & Jean High School. Given their facilities, the latter will become the point of expansion for future workshops of bigger ambitions for the larger teaching and research community in Gabon.
B. Universities	B.1 Promotion and encouragement of postgraduate studies	Student information sessions; attractive postgraduate funding	Larger number of postgraduate students resulting in larger research	We held a mini-interaction with about 10 students from the only state

			community	<p>run Teacher Training Faculty in Libreville.</p> <p>Advanced discussions were held with the leader of the Physics laboratory on the possibility of crafting together a project for the acquisition of an astronomical observatory as well as a planetarium for the whole institution.</p> <p>*****</p> <p>We held a mini-interaction with about 20 students from the only state run Center for advanced training in Maths & Physics in Libreville. An institution joined mostly by the best High school girls & boys majoring in Science and intending to pursue Engineering training in some of the best schools in the world.</p> <p>The students there decided to launch and maintain a club of Astronomy & Space Science in their institution with strong ties with the teaching staff and NOMMO ASTRONOMIA.</p>
--	--	--	-----------	---

**Report for the International Year of Astronomy 2009 (IYA09) in Gabon
and ways forward for Beyond IYA09**

				Consecutive star gazing nights were organized for students from both the Teacher training faculty and the center for advanced training in maths & physics. Giving them the opportunity to know each other and maintain a minimum interaction.
C. Public	C.2. Public Resource Development and Distribution	Posters, popular science magazines, planispheres, telescope kits, flyers	Interest in astronomy generated amongst public and fed by resources	Given our then small manpower; for these initial initiatives, we entirely decided to focus on the learners/student and the teaching community. Hoping that as citizens themselves they will bring forward the dreams back into their families, neighborhood and learning communities.
D. Government and community leaders	D.1. Astronomy education and information targeted at leaders	Free facility visits (open invitation); basic astronomy course targeted at leaders	National and local leadership that are well informed about astronomy; empowerment of leaders with (indigenous and scientific) astronomy knowledge	

**Report for the International Year of Astronomy 2009 (IYA09) in Gabon
and ways forward for Beyond IYA09**

E. Africa and abroad	E.1. Sharing of intellectual property and project specific collaborations	Distribution of electronic and "sample" materials that have been developed at various institutions; invitations to events; support and mentorship where requested	Strong international collaborations; Mutual assistance	We have chosen to maintain the highest & strongest level of visibility with other African and global networks for astronomy & space sciences.
----------------------	---	---	---	---

Funding and donations for "**Of Astronomy and Sciences**" came mostly from a seed grant from Developing Astronomy Globally cornerstone (DAG) project, 1 donation from a long term Germany based partner and local/own support . The steering committee is also leading an effort to gather and consolidate all astronomy resources in Gabon. Resources which will lead to a database of materials available to any local institution or individual who wants to use them in collaboration with **NOMMO ASTRONOMIA**. Our fully operational website keeps growing,

<http://ama09gabon.weebly.com/>

Gabon is at the core of the 2nd largest pristine tropical rainforest in the world, the "Bassin du Congo", literally the 2nd lung our unique planet. One of the goals of the recently launched Gabonese Space Program is to set up a regional centre for satellite data acquisition and analysis with the aim to monitor the evolution of the entire "Bassin du Congo". A core vision for us is therefore to explore all the possibilities to systematically couple Astronomy & Space Science with initiatives related to the preservation of the "Bassin du Congo" and therefore our unique Planet.

Yes, Astronomy & Space Science can save our unique Planet and it's Fun !

Please share with us your thoughts about Astronomy & Space Science for the ecological renaissance of the world on our blog at <http://ama09gabon.weebly.com/blog.html>

Our website continues to be heavily visited and resourced to better serve our goals. Much attention is presently being put into the enlargement of "**Of Astronomy and Sciences**", as the ideal platform for moving & instilling science through communities for the 10 coming years, through the Beyond IYA09 initiative.



Cape Town, March 28th 2010

Patrice M. OKOUMA

SPoC (Gabon)

Head, **NOMMO ASTRONOMIA**

okouma@hotmail.com

On behalf of the National Node for Gabon

NOMMO ASTRONOMIA
Association for Astronomy & Space Sciences in Gabon
B.P 3360, Libreville (Gabon)
<http://ama09gabon.weebly.com>