



PROGRAM OF SCIENTIFIC INITIATION WITH EMPHASIS IN  
MATHEMATICS FOR YOUNG TALENTS

MARCH, 2016

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| <b>PROGRAM OF SCIENTIFIC INITIATION WITH EMPHASIS IN MATHEMATICS FOR YOUNG TALENTS</b> |
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Thanks to the support of our donors from GlobalGiving to the Project of “Scientific Initiation for 120 students in Paraguay”, who contributed with a part of the funds needed for our activities. This program aims to increase the young talents who are, definitely, the most valuable resource of our country.

It is the first and only program with these features in the country, has a national scope and proven international effectiveness and has been conducted continuously since 1989. It consists of three main steps:

- 1) Detection and motivation through National Mathematical Olympiads;
- 2) Academic and Scientific Training;
- 3) Incentive to Excellence.

The long-term impact intended with the program, is the continuous training of Paraguayan professionals in science and technology, which will be the engine for the social and economic development of Paraguay.

After the last report (November 2015), the Summer Intensive Courses for Young Talents was held from **December 14<sup>th</sup> to 18<sup>th</sup>, 2015** and from **February 1<sup>st</sup> to 5<sup>th</sup>, 2016**. Each course was developed for 40 hours (completing 80 hours in the summer) in 4 levels according to the students' knowledge. The activities were developed in 9 cities around Paraguay. At the capital (Asuncion), students attended for one of different four levels: beginner, intermediate, early advanced and advanced, and in the other cities the courses were developed only in the initial level.

The themes developed in the courses were:

**1) Beginner Level**

**Topics:**

- Strategies for Problem Solving (Second module)
- Basic Geometry

**2) Intermediate Level**

**Topics:**

- Algebra: Factoring Polynomials, remarkable products
- Mathematical proof methods

### **3) Upper Intermediate Level**

#### **Topics:**

- Diophantine equation
- Boards and games problem solving techniques

### **4) Advanced Level**

#### **Topics:**

- Geometry
  - Euler's Method, Simpson's Rule
  - Lifting The Exponent Lemma
  - Translation and Rotational symmetry

For this summer activities, almost 450 people were invited (those who participated in the final stage of the National Mathematical Olympiad).

During December, 246 students attended to the courses. It should be noticed that 165 students from public schools had a complete scholarship from ITAIPU Binacional (OMAPA's Major Donor). Funds from GlobalGiving donors were used to give some partial scholarships to students from private schools, allowing their attending to courses.

From February 1<sup>st</sup> to 5<sup>th</sup>, 2016, the second summer course was developed. 189 students attended to these courses, and, 123 were received full scholarships from Itaipu Binacional. Again, GlobalGiving donors' funds were used to give partial scholarships to some of the remaining students.

These courses are especially designed for increase the talent for problem solving of young students with mathematical skills, and thus enable them to achieve a higher level than the one they could reach through the educational system in our country.

Some pictures from these activities are shown in the following pages of this report.

Please notice that for the execution of these activities, OMAPA provided its own funds together with the donations of Itaipu Binacional, Conacyt and GlobalGiving. These donations are extremely useful and really help us to achieve our goals. We hope to keep receiving the support of our donors, to whom we thank for their support.

We encourage our donors to follow our activities through the organization web page:

<http://www.omapa.org.py/>

as well as the social networks:

Twitter : @OMAPApY

Facebook: <https://es-la.facebook.com/omapa.org.py>



Poster for Summer Intensive Courses for Young Talents  
(December 2015)



Poster for Summer Intensive Courses for Young Talents  
(February 2016)





