

Global Astronomy Survey: Republic of Macedonia

First Submission : Gordana Apostolovska [see human resources section] [2 Apr 2009]
SPoC Approved : Yes

1. Professional (Research) Astronomy:

i. Number of universities offering Astronomy (and their names)

One University

Ss. Cyril and Methodius University of Skopje (Faculty of Natural Sciences, Institute of Physics)

ii. Number of universities offering Physics (and their names)

Four universities.

1. Ss. Cyril and Methodius University of Skopje

2. St. Clement of Ohrid University of Bitola

3. State University of Tetovo

4. Goce Delchev University of Stip

iii. Number of academics who have been trained in Astronomy (ideally with their names and levels of qualification)

1. d-r Gordana Apostolovska (assistant professor at the Institute of Physics, Faculty of Science, Ss. Cyril and Methodius University of Skopje) member of IAU since 2003.

2. Olgica Kuzmanovska Barandovska (teaching assistant at the Institute of Physics, Faculty of Science, Ss. Cyril and Methodius University of Skopje)

iv. Number of astronomical facilities (observatories, telescopes, etc) and as much detail about each as possible (websites/contact details)

The first initiation for building of an astronomical observatory in the Republic of Macedonia exist before 1956 when the government in Yugoslavia (Macedonia was in that period republic of Yugoslavia) decide to built astrophysical observatory in order to be prepared for the Geophysical year. After lots of bureaucracy, the process started at the location Zajčev Rid, by that time a suburb of the capital Skopje. The unfinished observatory had the bad luck of being demolished by the strong earthquake in 1963. In that way, this pioneer period for development of professional astronomy in the Republic of Macedonia has come to its end. Due to severe lack of funds for that purpose, the University was forced to (unwillingly) withdraw from the initiative for building a new observatory. Although there were many initiatives no astronomical (scientific, university or public) observatory has been built by today.

1. Schmid-Cassegrain LX-200 gps 10 Inch 2500 mm f-10

2. Reflector Orion 8 inch equator mount 1000 mm f-5

3. Reflector Orion 6 inch equator mount 1200 mm f-8

4. Refractor Bresser 4 inch equator mount 1000 mm f-10

5. Refractor Scopus 560/80 APO f-7

6. Dobsonian 11 inch hand made f-5.7

7. Refractor Secretan 8 inch 3000 mm f-15 (stil under construction)

Those telescopes are property of Faculty of Science in Skopje, Skopje astronomical society and in private property of amateur astronomers.

<http://sites.google.com/site/iya2009macedonia/Home>

Skopje Astronomical Society

<http://astronomija.com.mk/>

Astronomical Society Bitola

<http://www.adbitola.tk/>

Kumanovo Astronomical club Kokino

<http://astkum.tk/>

Megalithic observatory Kokino

<http://www.kokino.org.mk/>

v. Self evaluation (according to the different phases above, how would you rate your country in terms of Professional Astronomy? Please include any other relevant information to motivate your choice.)

Phase 3.

Astronomical community in the Republic of Macedonia is still in the stage of formation. There are few professional astronomers from our country who are educated and work abroad.

2. Public Understanding of Astronomy:

i. What governmental astronomy/science outreach programmes for the public take place (co-ordinated either by government departments or national facilities)

There is a very low level of government support of astronomy/science outreach programmes for the public.

In 1972 the city of Skopje enriched its architecture by one more important building. As a present from the governments of the Soviet Union and Algeria, a planetarium was built with a projection apparatus by the firm Zeiss.

ii. What non-governmental astronomy/science outreach programmes for the public take place (NGO activities or international programmes that your country is involved in)

The Astronomical Societies organize courses of astronomy, series of lectures on astronomy, field observations for its members, observations open to the public, astro-camps, active cooperation with the media through obtaining fresh and up-to-date information about the ongoing celestial happenings and phenomena.

iii. Comment on the presence of astronomy in the media (TV, radio, newspapers). Is it very prominent? Are there specific programmes on astronomy? Is the media generally willing to publish news on astronomy?

There is a low presence of astronomy in the media (what is similar with the presence of natural science). Only very hot topics are presented.

iv. Comment on the presence of astronomy/science in the general culture of the people. Are there any specific challenges or setbacks? Is astronomy a welcome subject of conversation?

One specific challenge is discovery of the ancient observatory site Kokino in 2001. It is believed

that represents an astronomical observatory and a ceremonial place and is approximately 3800 years old. According to NASA Kokino is on the 4th place in the list of magalithic observatories.

v. Self evaluation (according to the different phases above, how would you rate your country in terms of Public Understanding of Astronomy? Please include any other relevant information to motivate your choice.)

Phase 3.

3. Astronomy in Schools:

i. What governmental astronomy/science education and outreach programmes for schools take place (co-ordinated either by government departments or national facilities) .

In the framework of the programme Science for youth organized by the Ministry of education and Science once a year there is a competition in astronomy for pupils from primary and secondary schools. By the initiative of primary school teachers groups of pupils visit the Planetarium in Skopje.

ii. What non-governmental astronomy/science education and outreach programmes for schools take place (NGO activities or international programmes that your country is involved in) The Macedonian astronomical society about 11 years organise Winter astronomy schools for high school students. Last five years, together with Skopje Astronomical Society, organise State competition in astronomy. Publication of popular journal Astronomical Almanah (once a year).

iii. Comment on the presence of astronomy in the school curriculum. Is it part of the school curriculum? Is it very prominent? What age groups?

Republic of Macedonia is one of only a few (if not the only one) countries in Europe, where there is no Astronomy within the primary schools & high-schools programs. The many year efforts for introducing Astronomy in high-schools and the students' extreme interest for Astronomy (the latter is seen from the poll organized by the Bureau for Development of Education) are being completely ignored by the Ministry of Education and Science of Republic of Macedonia.

Since the approval of reforms of the high-school education in Macedonia (4 years ago), Astronomy is a part of the elective Physics course, taught in the final year of gymnasia.

In order to update the general astronomical knowledge the Institute of Physics pursues the mission of organizing continuous education for physics teachers, especially for the senior educators who didn't have the opportunity to follow the regular course in their studies.

iv. Comment on the status of astronomy/science in schools. Are there any specific challenges or setbacks? Sufficient number of students studying maths and science? General interest in maths/science/astronomy in schools?

The Institute of Physics from Ss. Cyril and Methodius University of Skopje is the only institution in the Republic Macedonia where astronomy is taught at the level of higher education. The graduates are skilled and educated to become high-school teachers in physics and astronomy. Institute of Physics organized training seminars in the frame of European Tempus Projects since 2005 and occasionally publishes astronomical books and teaching materials.

v. Self evaluation (according to the different phases above, how would you rate your country in terms of Astronomy in Schools? Please include any other relevant information to motivate

your choice.)

Any other general comments or information that you feel would be useful for this survey?

Professor Mijat Mijatovich (1950-2000) was one of the architects of the initiative for collaboration of the Balkan astronomers. He was the president of the Macedonian astronomical society in 1996 until 2000 when he was obstructed by the sudden and fatal heart attack. As a professor in the new and very attractive course for all students in physics Prof. Mijatovich became a very active person and invited lecturer in many schools in all parts of the country. As a president of MAS, he successfully completed a number of important activities including the membership of Macedonia in the International Astronomical Union. Namely, since 1998 it was a full member of IAU, and Prof. Mijatovich had been Macedonia's national representative. Unfortunately after few years of membership our government did not cover fee and our country was excluded as a member of IAY.

Phase 3.