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Promotion of scientific knowledge at Lviv Astronomical Observatory

The Astronomical Observatory of Ivan Franko National university of Lviv has a long and complicated history, tightly coupled to the Central-European history and history of Lviv. Founded in Enlightenment epoch (1771), the Observatory always carried the important mission of education and dissemination of Knowledge through ages. Today the staff of Observatory still promotes the knowledgable science, and engages youth in exciting learning process.

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It is officially acknowledged that Lviv Astronomical observatory is founded in 1771 by monks of Society of Jesus (Jesuits), next to Collegium which later evolved into the University. So, it is one of eldest Observatories in Europe. Jesuits understood the importance of Astronomical Observatory, whence they seriously considered it as a way to acquire a real Knowledge, as a cornerstone of psychological, ideological as well as social structure of whole society.

Lviv is a large cultural and commercial centre of Eastern Europe, and it was that way for the centuries. So it is a natural place to develop the science of Astronomy, despite of the worst possible climatic conditions.

Nowadays, Lviv Astronomical Observatory runs the scientific activities in the following areas: Physics of the Sun, Physics of stars and galaxies, Relativistic astrophysics and cosmology, Practical astronomy.

The main building is situated in the city centre (Kyryla i Methodia str., 8). At the roof a site is arranged for demonstration telescopes, there Zeiss 13-cm refractor (after restauration, almost 100-years old) is mounted. The main observational site, much larger, is in suburban village of Brukhovychi. In this place the regular observations of Sun, stars and artificial satellites are carried out. The facilities include larger instruments – AZT-14, Maksutov photoheliographer, chromospheric-photospheric telescope AFR-2 equipped with interference-polarization filter, as well as TPL-1M, an assembly of instruments to run photometrical, polarimetrical, and laser ranging (LRS) observations.

Pure scientific research implemented by personnel of Observatory is complemented by teaching specialization subjects for students.



Fig. 1. Students practicing in TPL, with K. Martyniuk-Lototskyj, senior technician of Observatory.

Also, the Observatory [2] provides educational programmes aimed to everyone interested in astronomy. Nowadays, we observe obvious gap between high technologies and widely accepted ignorance on science, it appears to be major problem of modern society. The paradox is that we have a lot of information whereas the circle of scientific knowledge is shrinking.

The promotion of true astronomical knowledge can help the society to build positive and true picture of the world. Person, who is really touched by the spirit of exploration and research, new discoveries, progressive ideas will never follow the primitive superstitions. Such people would never believe into

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“doomsday on the 21 of December 2012”, “Planet Nibiry”, etc. It is a duty of astronomers to withstand common interest into astrology and neglect of real scientific achievements. We are eager to propagate the accurate information about astronomical events, new trends, new results. Everyone choose his our way.

One of the fruitful ways to spread astronomical information and knowledge is excursions into places where scientists are working, to see astronomical instruments, telescopes and to hear other interesting things.

Pupils and children, students and teachers usually enjoy the visits to the Observatory for watch starry night-sky. The excursions are held regularly, the content depends on the season or time, when we have opportunity to observe different celestial bodies.

All interested people are welcomed, from Lviv, as well as from other cities and regions of Ukraine and abroad, different educational institutions, e.g. Ternopil National Pedagogical University, Minor Academy of Sciences (Kryvyi Rig city), Ivano-Frankivsk University, Lviv National University of Veterinary Medicine and Biotechnologies named after S.Z. Gzhytskyj, school-garden “Sofia” (Lviv) at least to mention. For graduate students visiting Observatory is also a useful addition to the main programme. Through the year Observatory accepts about 50 visitors’ groups, each amounts about 10-20 people.



Fig. 2. Excursion at observatory with A. Bilinskyj.

The “International Year of Astronomy” (IYA 2009) was a year-long celebration of astronomy that took place in 2009 to memorize the 400-th anniversary of the first documented optical astronomical observations held by Galileo Galilei with a telescope and the publication of Johannes Kepler’s “Astronomia nova”.

“100 Hours of Astronomy” (100 HA) is a world-wide astronomy event that ran 2-5 April 2009 and was a part of the scheduled global activities of the International Year of Astronomy 2009. The main goal of 100HA was to have as many people throughout the world as possible looking through a telescope [6].

The Astronomical Observatory participated in this event and organized a possibility to observe sky with small telescopes, installed right next to the place, where the first Observatory was build (on Svoboda Avenue, near the monument of Taras Shevchenko) [7]. Also, the participants were welcomed by astronomers in Bryukhovychi village and at Kyryla i Methodia str., 8 with interested met.



Fig. 3. 100 Hours of Astronomy in Lviv. Novosyadlyi, B.S., Stodilka, M.I., Kulinich, Yu., Pidstrygach I.(Lviv Astronomy Observatory)

Another way to spread the knowledge to the masses is another event, “Education and Science Festival”.

This event was organised by Ivan Franko Lviv National University in April of 2010. During this event the observatory staff had organized the observation of celestial objects in the Lviv city center [3]. Moreover, the doors were kept open in building of Observatory in Lviv city centre and in Brukhovychi.

In 2011 Lviv welcomed the participants of IVth tour of Olympiad in Astronomy. It was 121 participants, including 56 pupils, 28 team leaders, 19 judges and of 18 members of the organizing committee [4]. Observatory employees participated in jury and organizing committee. Participants were from all over Ukraine. These young scientists also visited the Observatory in Bryukhovychi, to keep in touch with real observations of celestial bodies.



Fig. 4. Participants of Olympiad in Astronomy, 2011. Satellite Laser Ranging facility in Bryukhovychi.

So-called “White Elephant” is abandoned astronomical and meteorological observatory on the mount Pip Ivan (Ukraine, Carpathians). It is the highest building in Ukraine, which had constantly living and working people (2028 m above sea level). It was operating for short period 1938-1941 [5]. Now only ruins are left on a top of the mount. However, the various projects are promoted aimed to repair this building and bring the observatory back therein. There is a Ukrainian-Polish government agreement aimed on the restoration of this object. Staff of Lviv Observatory was participating in expedition to mount Pip Ivan in July 2012 with teachers and pupils from Lutsk.



Fig. 5. Expedition on the Mount Pip Ivan. Pupils from Lutsk and Kurylo A.

Other interesting astronomical event to mention is the lunar eclipse, when Observatory was opened for visitors, in 15 .06. 2011. Many different people and astronomy amateurs enjoyed the event.

Not all events are available at the site of Lviv. For example, 6 of June 2012 the unique astronomical phenomenon, Venus passing the Sun disk, was available for observations at some other locations. Our colleague K.P. Martynyuk-Lototskyj went to Crimea, Ukraine (village Nauchnyi), to participate in observation along with astronomers, amateurs and numerous tourists.

Here we can not mention every event organized by Observatory. So, the one more way to share interesting things with audience is various popular publications. It is articles in popular science fiction journal and magazines, in newspapers, in children magazines. Among others it is worth to mention the “World of physics” (Ivan Franko LNU) [8] which had 1000 copies in 2007; “Outlook” (Svitoglyad) (Ukrainian Astronomical Association) in 2012 had 600 copies; “Bulletin NTSh” (Visnyk NTSh) - Taras Shevchenko Scientific Society; “Spike” (Kolosok) Ukraine-wide popular science magazine [9].



Fig. 6. The passage of Venus. Crimea.

These articles complements the education for pupils, students and for anyone else. Unfortunately, the teaching of astronomy in ordinary schools is almost abandoned. However, we are eager to restart the Enlightenment again, to assist the people to gain a real Knowledge, which is a way to real Freedom of Spirit.

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