

Astronomia Nova Association

Bogdan Wszolek^{1·2·3}

1. Jan Długosz University in Częstochowa
Al. Armii Krajowej 13/15, Poland
2. Astronomia Nova Association
www.astromianova.org, bogdan@ajd.czyst.pl
3. Queen Jadwiga Astronomical Observatory in Rzepiennik Biskupi

We present the general information concerning new born astronomical and astronomical organization in Poland, the Astronomia Nova Association.

1 Introduction

Astronomia Nova Association (AN) was founded in 2009 in Czestochowa. AN membership is comprised of approximately 100 members from Poland and abroad, specialized in astronomy and related fields. Honorary members of AN are: professor priest Michał Heller, Polish cosmonaut Mirosław Hermaszewski (the first and the only one Polish cosmonaut) and professor Virginia Trimble.

The main goals of AN are:

- raising cultural awareness in the area of natural sciences, with the pressure on astronomy and sciences related to it,
- research and development, especially in the areas of astronomy, astrophysics, astronautics and aeronautics,
- founding and managing new research and educational facilities (observatories, planetariums, science parks, etc.) including the proper social facilities,
- promotion of the interregional and international cooperation for faster and better adaptation of the newest aerospace engineering technologies for purposes of various projects in areas of ecology, meteorology, telemetry, telecommunication and others.

2 Johannes Kepler – a patron of AN

The vision of the world, which Kepler has created and developed, is one of the most unusual in the history. It contains elements which have become over time the common intellectual property of mankind. From Kepler we can constantly learn how to penetrate the secrets of nature. In 1609 Johannes Kepler published his work *Astronomia Nova*, which introduced the modern way for investigating the truths of nature, based on detailed analysis of observational data. Kepler's achievements gave strong foundations for development of modern science and space exploration, and therefore AN members treat Johannes Kepler as their excellent master, who pointed out the way which humanity should follow to logic and effective study of the universe as a natural environment for the existence and functioning of human being.



Fig. 1: Johannes Kepler (1571–1630)



Fig. 2: Logo of AN

3 Logo of AN

Graphical sign of AN is directly connected to the first two laws of planetary motion discovered by Kepler and described in his work *Astronomia Nova*. The shape of it is therefore elliptical and the Sun is situated in the focus of the ellipse. The second law is visualized by blue color intensity gradient. The farther the Sun, the more slowly the planet moves and the blue color is darker. When closer to the Sun, the planet is moving faster and the color is brighter. Central graphic of the logo is the only symmetric drawing posted by Kepler in the *Astronomia Nova*. This is the Figure 56, which represents the Sun and fragments of the orbits of Earth and Mars. Two Latin words, *astronomia* and *nova*, were used by Kepler to entitle his greatest work. We hope that the same words in the name of the association will, in the spirit of the great Kepler, motivate its members to noble activities for the development of astronomy, for it to serve the challenges of our time.

4 Examples of activity

AN organizes open for public sky observations of interesting astronomical phenomena such solar and lunar eclipses, transits of Venus or Mercury, comets, cyclic meteorite showers, etc. In cooperation with universities, AN organizes conferences, scientific sessions, workshops, picnics and exhibitions; for example:

1. International Conference for Young Scientists Astrophysica Nova (cyclic from 2009)
2. Astronomy – Science and Faith (cyclic from 2009)
3. International Space Science and Technology Conference – Meet the Space (cyclic from 2013)
4. Scientific session “Man and the Universe” (cyclic from 2011)
5. Rocket workshop (2014, 2015)
6. Robotic workshop (2014, 2015)



Fig. 3: Modern satellite antennas in disposition of AN. From the left: RT-9 in Rzepiennik Biskupi, RT-13 in Częstochowa, RFT-5.4 in Rzepiennik Biskupi and RT-13 in Cieszęcin.

7. Picnic “pod gwiazdami” (cyclic from 2012)
8. Scientific picnic “Space Station” (cyclic from 2013)
9. Space exhibition “On the way to space” (2014)

AN organizes cyclic competitions and challenges:

1. Polish Astronomical Competition *Urania* for gymnasium and higher school students (cyclic from 2009)
2. International Artistic Astronomical Contest *Ars Astronomica* (without age limitations, cyclic from 2011)
3. Polish Astrophotography Competition (without age limitations, cyclic from 2012).

AN runs publishing activity. It releases periodically “Częstochowski Kalendarz Astronomiczny” – Astronomical Calendar (a rich illustrated book with hardback, approx. 300 pages) and other books, like: “Astronomy – Science and Faith” (Volume I and Volume II 2010 2015), “Man and the Universe” (2012). AN patronates for developing research and educational centers related to popularization of astronomy and astronautics. Often it stimulates development of such centers. In particular, AN is deeply involved in development of:

1. The Queen Jadwiga Astronomical Observatory in Rzepiennik Biskupi
2. Center of Knowledge and Entertainment in Częstochowa
3. Center of Astronomy and Astronautics Education in Cieszęcin (Wieruszów).

AN supported all listed above places in revitalization of large radiotelescopes (withdrawn from Psary and Komorowo). Revitalization of this instruments for radioastronomy and space telecommunication is actually the main priority for AN activities.

AN invites all people, who want to share their competences, talents and diligence in creating the future of astronomical and space culture.

Acknowledgements. Author is thankful to dr Agata Kołodziejczyk and dr Agnieszka Kuźmicz for their technical help in completing this contribution.