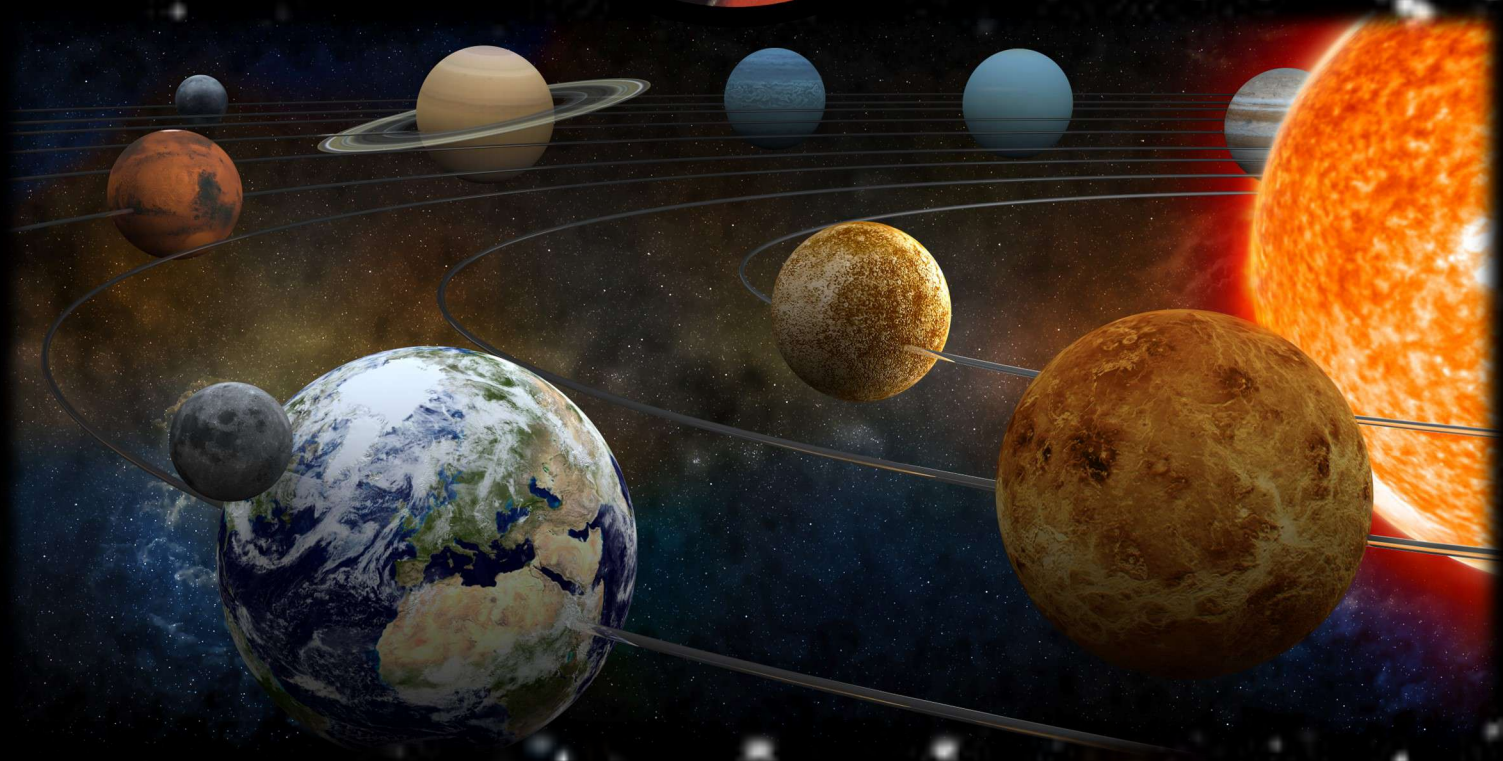
Nicolaus Copernicus

1473-1543

Astronomer-mathematician, who “stopped the Sun and moved the Earth, he belonged to the Polish tribe.”

Jan Niepomucen Kamiński

Copernicus Jubilee (550) in Canada 2023



“Of all discoveries and opinions, none may have exerted a greater effect on the human spirit than the doctrine of Copernicus.”

Nicolaus Copernicus. Unknown artist, ca. 1580. Toruń Old Town Hall, Poland. Reproduction by Piotr Bednarski, 2000. *Source: Jerry Barycki Collection.*

The Solar System. *Source: iStock, permission no. 2074445022*

Introduction (2)

This display is homage of the Canadian Polonia to Nicolaus Copernicus in 2023 on the occasion of the 550th anniversary of his birth (19 February 1473) and the 480th anniversary of his death (probably 21 May 1543). The purpose of the display is to summarize the basic, biographical information about him. From the time humans appeared on Earth, they observed the objects moving in the heavens above them. Successive generations believed that the Earth did not move. Only Nicolaus Copernicus, the Polish astronomer and mathematician, on the basis of his calculations, formulated the visionary theory that our planet is in motion and not the Sun. This was the origin of the modern dictum: “Copernicus stopped the Sun and moved the Earth.” Furthermore, not only is our star stationary [with respect to its planets], but so too are all of the stars of the firmament! Today, he is regarded as the father of modern astronomy.

“What is more beautiful than heaven, which after all brings together everything that is beautiful? … And consequently, if we are to judge the worthiness of the sciences, according to the subject of each one, then without any comparison, the foremost among them will be what … they call astronomy.” Nicolaus Copernicus.

The Pyramids, against a background of stars. Source: wallpaperaccess/egypt-at-night.

Selected facts from the life of Copernicus

- Copernicus was born on 19 February 1473, into a well-to-do family of townspeople in Toruń.
- He studied at the Kraków Academy in Poland and later in Italy, at Bologna, Padua, and Ferrara.
- As the canon of a chapter house, he performed a wide range of church and administrative functions in Warmia, while at the same time pursuing the passions of his life: astronomy and mathematics.
- For most of his life, he carried out his own astronomical studies, which he presented in his major work, “On the Revolutions of the Heavenly Spheres”, published just before his death in May 1543.
- His breakthrough work is the account of the heliocentric theory of the Solar System, formulated by Copernicus.
- This revolutionary concept on the universe is comparable to the discoveries of Aristotle, Newton, and Einstein.
- His skeletal remains were found in 2005; they were identified and reburied at Frombork, in 2010.

Jagiellonian Poland, 1386-1569, including Warmia from 1466

At the time of Nicolaus Copernicus, the Kingdom of Poland existed, united with the Great Lithuanian Principality. The Polish-Lithuanian Nation was governed from 1386 to 1569 by the Jagiellonian dynasty, which created from Poland and Lithuania a major power, the greatest in area in the Europe of those times. In Kraków, the capital of the nation, the royal throne was located in Wawel Castle. Warmia became a part of the Kingdom of Poland as a dominion in 1466.

The Polish-Lithuanian Nation, against the background of Europe in 1500. *Source: Wikimedia Commons.*

Administrative subdivisions of the Commonwealth of the Two Nations in 1619. *Source: Wikimedia Commons.*

The Polish-Lithuanian Union in 1619, in the context of modern, national boundaries. *Source: Wikimedia Commons.*

Poland: Toruń, the Youth of Copernicus, 1473-1491 (3)

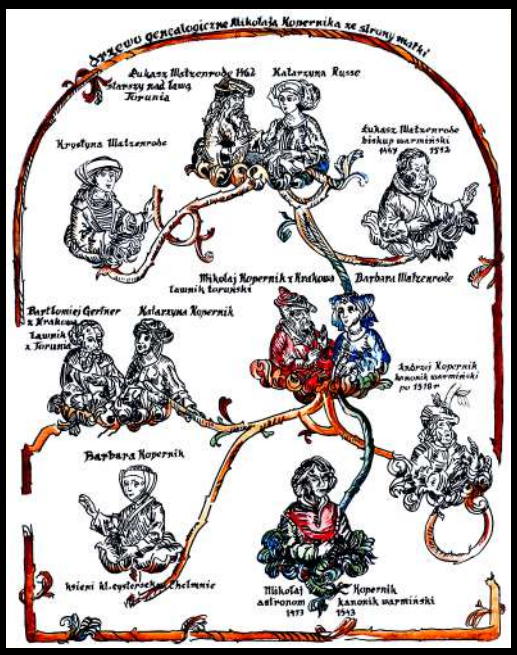
Plan of the City of Toruń in 1641, showing its defensive walls. *Source: Wikimedia Commons.*

Panorama of Toruń from the south, XVIII Century, author unknown. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Modern panorama of Toruń. *Source: Wikimedia Commons.*

The family of the future astronomer originated in Silesia, moving to Kraków in 1350, and from there to Toruń in 1455. The city had about 12,000 citizens at that time and fared well economically. Copernicus was born on 19 February 1473, during the rule of Kazimierz Jagiellończyk, and was christened in the SS. Johns' Cathedral. At that time, the family occupied a house at the present-day 15 Copernicus Street, but a few years later most likely moved to 36 Market Street. His father, also named Nicolaus, as a wealthy merchant and a councilor of the City Court, generously supported the development of Toruń and its defense needs. Nicolaus had a brother, Andrzej, and two sisters, Barbara and Katarzyna. His mother, Barbara, was the sister of Łukasz Watzenrode, later a bishop of Warmia and a Polish senator. When the father of Copernicus died, the mother's brother, Łukasz, a canon in Włocławek Cathedral, took care of the family.

The SS. Johns' Cathedral. *Photo by Andrzej R. Skowroński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*



Family tree of Nicolaus Copernicus on the side of his mother. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Epitaph of Nicolaus Copernicus from the SS. Johns' Cathedral. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Baptismal font, SS. Johns' Cathedral, XIII Century. *Photo by Krzysztof Deczyński. Source; Nicolaus Copernicus House, Branch of Toruń District Museum.*

Toruń, the Home of Copernicus (4)

Plaque on the front of the tenement at 15/17 Kopernik Street, in Toruń, 1923. *Photo by Krzysztof Deczyński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

The home of Copernicus- fragment of the interior. *Photo by Andrzej R. Skowroński. Source: Nicolaus Copernicus House in Toruń, Branch Toruń District Museum.*

The home of Copernicus, Kopernik Street 15, now buildings of the Museum Copernicus House. *Photo by Andrzej R. Skowroński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Emperor Napoleon Bonaparte in 1812, in front of the tenement, at that time the home of Nicolaus Copernicus, an engraving by Adam Piliński, based on a drawing by Teofil Mielcerzawicz, Paris ca. 1846-1847. *Source: Nicolaus Copernicus Public Provincial Library in Toruń.*

Statue of Nicolaus Copernicus from 1853. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Probably, Nicolaus attended the City School at the SS. Johns' Cathedral in Toruń, famous for the high quality of instruction. There were superb teachers, including Konrad Gesselen, a well-known humanist, and the uncle of Nicolaus, Łukasz Watzenrode, educated at universities in Kraków, Bologna and Cologne. Presumably, he already was interested in the exact sciences there, having access to a rich collection of books, including astronomical texts.

Portrait of Nicolaus Copernicus before 1595, artist unknown, Bourgeois Room, Old City Market, Toruń. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Copy of a lost portrait of Łukasz Watzenrode, uncle of Nicolaus Copernicus. Made by Prof. Józef Flik. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Poland: Kraków. Jagiellonian University, 1491-1495 (5)

Kraków, from the “Chronicles of the World” of Hartmann Schedl, 1493. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

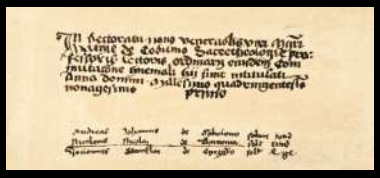
Modern panorama of Kraków. *Source: Wikimedia Commons.*

Kraków: statue of Nicolaus Copernicus in the courtyard of Collegium Maius. Art Publishing House (before 1936). *Source: National Library. Sygn. DZS 8b/p.8/3. Skan: pomnik Kopernika w Collegium Maius.*

Modern view of courtyard of Collegium Maius and of the building itself, the view from Jagiellonian Street. *Photo by Mateusz Kozina. Source: Museum of the Jagiellonian University.*

Łukasz Watzenrode, Bishop of Warmia (1489-1512), had the means to finance and direct the careers of people in his immediate environment, which took place in the case of Nicolaus and his brother Andrzej. The future astronomer began studies at the Kraków Academy in 1491, at that time one of the best schools in Europe. The future scholar used the Latin form of his name, Nicolaus Copernicus or Nicolaus Nicolai de Thoronia (Nicolaus from Toruń) and it was entered in this way in the student registry of the Kraków Academy.

Modern view of the courtyard of the Collegium Maius. *Source: Wikimedia commons.*



Entry on Nicolaus Copernicus in the student roster of the Kraków Academy. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Bas-relief on the wall of the Collegium Maius, showing Bishop of Kraków, Zbigniew Oleśnicki, as sponsor of funding at the Jagiellonian University. *Photo by Grzegorz Zygier. Source: Museum of the Jagiellonian University.*

The programme of activities included lectures by famous professors, which shaped the intellect and developed the interests of Nicolaus. He studied the so-called liberal sciences, among which mathematics, astronomy, and geometry interested him the most. He attended the lectures of Wojciech of Brudzewa, the most famous expert on astronomy and mathematics in Poland at that time. He also was interested in literature, music, and drawing. He learned about surveying measurements and drawing maps. With his colleague, Bernard Wapowski, he made the first maps of Prussia and Poland. Copernicus was a frequent visitor at the Collegium Maius, where in the library he discovered books full of interesting knowledge and he benefitted from the astronomical instruments, so essential to the cultivation of his passion. Presumably, this was where he became acquainted with the latest instruments for astronomical studies, made available to the school by Professor Marcin Bylica.

Likeness of Nicolaus Copernicus from a poster, designed by Felicjan Szczęsny Kowarski, lithograph, 1923. *Source: Nicolaus Copernicus Public Provincial Library in Toruń.*

Półrocze	Lektorjum univers. i godzina	Nazwisko magistra	Tytuł przedmiotu
1491 zimowe	Theologorum 13	Mag. Albertus de Pisiewy	Sphaerâ Joan. Sacrobosco
1492 zimowe	Aristotelis 14	Mag. Laurentius Corvinus	De ente et essencia
1492 zimowe	Aristotelis 18	Mag. Bartholomeus de Lipnica	Geometria Euclidis
1493 letnie	Platonis 10	Mag. Simon de Sierpc	Theorice planetarum
1493 letnie	Socratis 17	Mag. Bernhardus de Biskupie	Tabulae eclipsium
1493 zimowe	Theologorum 13	Mag. Michael de Wratislavia	Tabulae Resolutae
1493 zimowe	Socratis 14	Mag. Martinus de Ilkusz	Kalendar. Regiomontani
1494 letnie	Platonis 16	Mag. Albertus de Schamotuły	Astrologia (Hali-Ragel)
1494 letnie(?)	Bursa (philosoph?)	Mag. Joannes de Glogovia	Geograph. De situ orbis
1494—5 zimowe	Platonis 20	Mag. Albertus de Schamotuły	Ptolemaei Quadripartitum

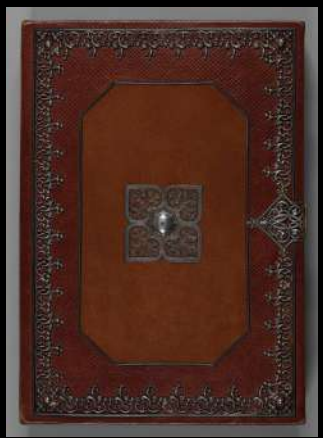
List of activities of Nicolaus Copernicus at the Jagiellonian University, 1491-1494. *Source: Stromata Copernicana, L.A. Birkenmajer.*

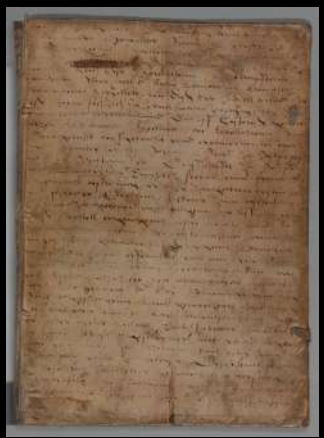
Professors and students during the time of Copernicus at the Jagiellonian University – engraving from painting by Jan Matejko. *Source: Kopernik and His World. Wanda M. Stachiewicz.*

Lecture theatre and library of the Collegium Maius – present-day view. Copernicus studied at the University from 1491-1495. *Photo by Grzegorz Zygier. Source: Museum of the Jagiellonian University of Kraków.*

Statue of Copernicus in Kraków. *Photo by M. Kozina. Source: Museum of the Jagiellonian University of Kraków.*

Astrolabe of Marcin Bylica from 1486, which presumably Copernicus got to know during his studies in Kraków. *Photo by Grzegorz Zygier. Source: Museum of the Jagiellonian University of Kraków.*





Manuscript of the work, “De revolutionibus”, 1543. After a long journey, it returned to Poland and is in the collections of the Jagiellonian Library from 1956. In the photograph are the cover and page 5, as an example. *Source: https://jbc.bj.uj.edu.pl/dlibra/publication/1494/edition/858/content.*

Italy: Bologna, Rome, Padua, Ferrara, 1496-1503 (7)

Bologna

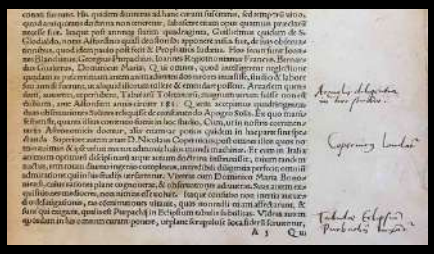
Bologna from “Chronicles of the World” by Hartmann Schedl, 1493. *Source: Nicolaus Copernicus House* in *Toruń, Branch of Toruń District Museum.*

The University in Bologna, open in 1088, is the oldest, continuously operating university in the world. *Photos: courtyard, Pedro; panorama, Jim; library, Doug Davey. Source: Flickr.com.*

Sculpture of Copernicus. *Source: Wikimedia Commons.*

Bologna was one of the most beautiful Italian cities as well as a centre of science and culture. Here was the oldest and one of the best universities at that time in Europe. The sons of rich families came to the city to develop intellect and ability. Nicolaus, following the wishes of his uncle, studied law at Bologna University but in fact was fascinated with astronomy. He soon entered into collaboration with Professor of Astronomy, Domenico Novara, with whom he confided about his doubts regarding the geocentric theory of Klaudiusz Ptolemeusz. They made joint astronomical observations and documented their discoveries. On the basis of mathematical calculations, Copernicus noted the erroneous foundation of the geocentric system. In this way, his new vision of the universe came into being.

Portrait of the young Nicolaus Copernicus, John Chapman, copperplate engraving, coloured, London, 1802. *Source: Wikimedia Commons.*



Text, noting that Copernicus lived with Domenico Maria Novara in Bologna. Fragment of first page of: George Joachim Rheticus, Ephemerides novae, 1550. *Photo by Karl Galle. Source: Austrian National Library, Vienna.*

Domenico Maria Novara de Ferrara, Professor of Astronomy at Bologna University. In 1496, he taught Nicolaus Copernicus astronomy. *Source: alchetron.com/ Domenico-Maria-Novara-da -Ferrara.*

Copernicus in the astronomical observatory in Bologna, A. Lesser. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Rome

In Rome, the seat of the Pope, the most important roads of commerce and diplomacy crossed. During the jubilee year, 1550, Nicolaus went to the Eternal City to do his practicum at the papal chancellery. At the same time, he gave several lectures on mathematics and astronomy. In the capital of Catholic Europe, young Nicolaus made an impression on many influential and well-known people of the Renaissance.

Ancient Rome. Source. *Wikimedia Commons.*

Copernicus lecturing on astronomy in Rome, 1500. Wojciech Gerson, engraving [1876]. *Source: National Library Sygn. G. 23214/III.*

Padua (8)

Padua, from “Chronicles of the World”, by Hartmann Schedl, 1493. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Padua University. *Source: Wikimedia Commons.*

Studying in Italy was expensive, but his sponsor, Łukasz Watzenrode, helped Nicolaus to gain the status of canon, thanks to which the astronomer financed his further medical studies at Padua University and this probably led to a license. He also attended additional presentations on philosophy and classical literature; as well he learned the Greek language to better grasp the work of ancient astronomers.

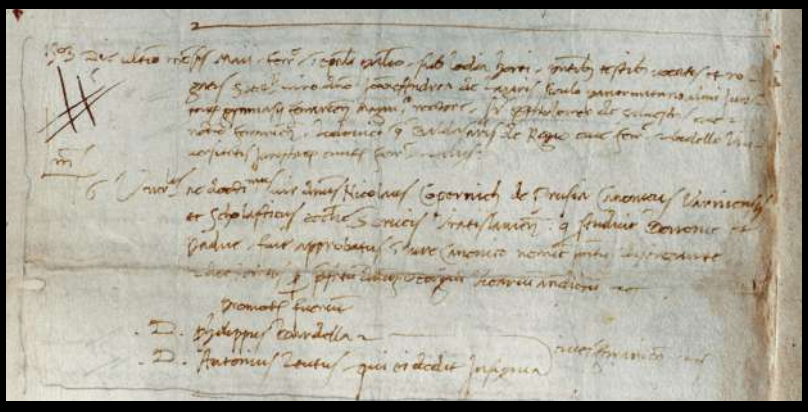
Ferrara

Ferrara, from “Chronicles of the World”, by Hartmann Schedl, 1493. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Cathedral of St. George, Ferrara. *Source: Wikimedia Commons.*

Ferrara University. *Source: Wikimedia Commons.*

In 1503, Nicolaus Copernicus defended his doctorate in canonical law at Ferrara University and ended his studies in Italy. He was superbly educated, had a broad range of knowledge, knew seven languages, and was ready for the next stage in his life.

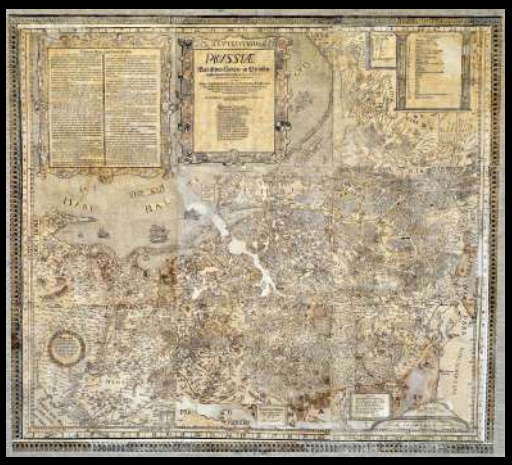


Copy of diploma for doctorate in canonical law, received by Nicolaus Copernicus at Ferrara University, 1503. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Crest of Ferrara University in 1391. *Source: Wikimedia Commons.*

Poland: Warmia, 1503-1543 (9)

The greater part of the Dominion of Warmia owed allegiance to the bishop, the remainder to the cathedral chapter, residing in Frombork. Copernicus spent most of his life there. He returned to Poland after his studies in 1503. Initially, he went to Lidzbark Warmiński.



Left: Map of Prussia by German cartographer, Kaspar Henneberger, based on field measurements and the maps and work of well-known scholars, including Nicolaus Copernicus, published in Królewiec, 1576. *Source: Nicolaus Copernicus Public Provincial Library in Toruń.*

Right: Historical Map of Warmia, 1346-1772, showing regions. *Source: Wikimedia Commons.*

Lidzbark Warmiński, 1503-1510

Copernicus was the legal adviser and personal physician of his uncle, Łukasz Watzenrode, Bishop of Warmia, whose seat was in a castle. He also participated in frequent, diplomatic missions, assigned by the bishop. As well, he carried out administrative functions at various centres, travelling and living where his presence was required.

View of Lidzbark Warmiński, engraving from XVII Century. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

General view of castle at Lidzbark Warmiński. *Photo by Michał Misztal. Source: City Community, Lidzbark Warmiński.*

Statue of Nicolaus Copernicus at Lidzbark Warmiński. *Photo by Michał Misztal. Source: City Community, Lidzbark Warmiński.*

Castle of the Warmiński Bishops at Lidzbark Warmiński. *Source: Wikimedia Commons.*

Several years ago, during conservation work on the castle at Lidzbark Warmiński, on one of the walls, a drawing of three of the planets was discovered, drawn on the plaster: Mercury, Venus, and Earth with its Moon. The probable author of the drawing was Nicolaus Copernicus, for who else among the occupants of the castle could boast of such good knowledge of astronomy to use concentric circles in presentation of the heliocentric theory? *Source: photo and note based on article by Jacek Drążkowski, Urania, 2016.*

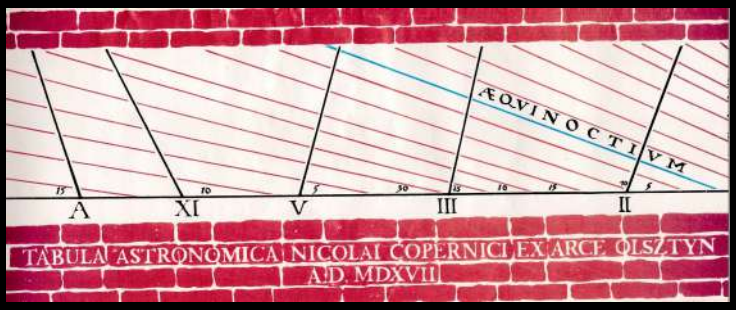
Heliocentric diagram of Copernicus, author unknown. Found on wall of castle at Lidzbark Warmiński. *Source: Jacek Drążkowski, Urania, 2016.*

Olsztyn, 1516 - 1519, 1521 (10)

Copernicus lived for several years in Olsztyn, carrying out functions for the good of the chapter. On a wall of the castle, covered with plaster, above the entrance to his room, on the basis of his observations, he marked a graphical representation of the moment of the spring equinox. The remnants of this astronomical table from 1517 are visible to this day. It is the only original astronomical instrument used by Copernicus that lasted to these times. The defense of Olsztyn in 1520 against the Teutonic Knights, prepared by Copernicus, is an example of his patriotism, courage, and organizational ability. In recognition of his service, the citizens erected a statue to Copernicus.

Olsztyn Castle. *Source: Wikimedia Commons.*

Astronomical table, “astronomical instrument”, drawn by Copernicus in Olsztyn Castle, 1517. *Photo by Grzegorz Kumorowicz. Source: Museum of Warmia and Mazury, Olsztyn.*



Left: Reconstruction of the astronomical table, visible in the castle wall. The red lines correspond to particular days of observations, the blue one to the spring equinox, with the note “Aequinoctium”. *Source: Museum of Warmia and Mazury, Olsztyn, author Tadeusz Przypkowski.*

Copernicus, “in his home in Olsztyn, opposite a window above a door hammered out a hole in the wall, through which the sun’s rays reached points that were marked in the next room. It was an astronomical marker, with the aid of which the tireless astronomer measured the height of the Sun in the south and the inclination of the ecliptic.” *Tadeusz Czacki and Marcin Molski, in a letter to Jan Śniadecki, 1802. Source: https://archivum.pan.pl.*

Portrait of Nicolaus Copernicus according to Toruń likeness of astronomer from Academic Secondary School- lithograph by French engraver, Pierre Roch Vigneron, from 1830s. *Source: Nicolaus Copernicus Public Provincial Library in Toruń.*

This statue of Copernicus in Toruń is an expression of gratitude from citizens for help in the defense against the Teutonic Knights in 1520. *Photo by Grzegorz Kumorowicz. Source: Nicolaus Copernicus Public Provincial Library in Toruń.*

Stamp of administrator for benefit of Warmiński chapter, from beginning of XVI century, used by Nicolaus Copernicus, among others. *Source: Wikimedia Commons.*

Frombork, 1510 - 1543 (11)

Copernicus moved permanently to Frombork, where he carried out many important functions for the Warmia wing of the cathedral centre. He worked as a chancellor and official inspector for the centre, as commissioner of Warmia, and as general administrator for the bishopric from 1512 to 1543. He was involved in diplomacy and reform projects.

Copernicus spent most of his life in Frombork. Here he worked on his heliocentric theory, ended his professional life, and was buried as a canon in his cathedral.

Cathedral Hill in Frombork in the XVII Century. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

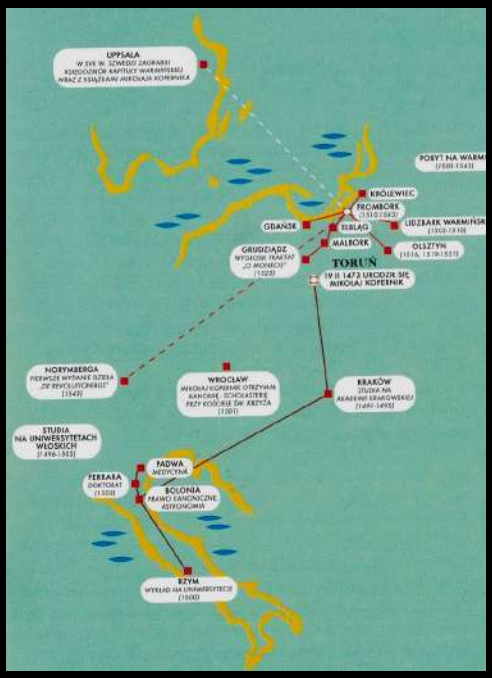
House of Nicolaus Copernicus in Frombork, drawing, Chotomski, D., Piliński, Adam, 1810-1887. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Modern view of Cathedral with buildings, where Nicolaus Copernicus lived and worked in Frombork. *Source: Wikimedia Commons.*

This is how the workplace of Nicolaus Copernicus might have looked.

This is how the kitchen of Nicolaus Copernicus in might have looked.

Nicolaus Copernicus- a tale of his life and works. Parts of display in District Museum in Toruń. *(This is how the workplace and kitchen of Nicolaus Copernicus in Frombork might have looked.) Captions added by Jerzy Barycki. Photo by Krzysztof Deczyński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*



Map of cities, connected with the life and work of Nicolaus Copernicus. *Source: Nicolaus Copernicus Public Provincial Library in Toruń.*

Copernicus was born in Toruń, studied at the Academy in Kraków, next in Italy, at the universities in Bologna, Padua, and Ferrara. He also spent some time in Rome. After gaining an education, he returned to Warmia and remained there. The greater part of the Dominion of Warmia owed allegiance to a bishop, the remainder to the cathedral chapter of Frombork. Copernicus lived in Lidzbark Warmiński for several years, later in Olsztyn, and finally in Frombork.

Perhaps this is how Copernicus looked, when he moved to Frombork at the age of 27. *J.F. Piwarski, Portrait of N. Copernicus, 1852. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Public Activity (12)

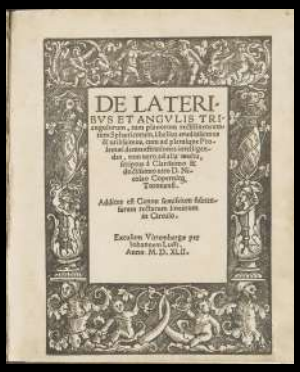
Likeness of Copernicus, author Carl Barth, engraving, ca. 1850. *Source: Nicolaus Copernicus Public Provincial Library in Toruń.*

Copernicus, the civil administrator, scholar, lawyer and cleric, carried out many official functions in Warmia. These included chancellor of the chapter, administrator of the resources of the chapter, and even general administrator of the Dominion. Among his responsibilities were attention to the economic development of the region and for this purpose he carried out numerous inspections. He made about 60 business trips, including 12 to Pieniężno. Now and then, he conducted diplomatic activities, such as in the dispute with the Teutonic Knights. Copernicus wrote a treatise on reform of the monetary system and brought about the location of settlers (in Komajna and Pełta, 1517). He was the author of a "bread tax", which regulated the price of bread in relation to its weight and the value of the specific type of flour. He also postulated changes in monetary law (Grudziądz, 1522) for stabilizing the economy. He also published a paper on trigonometry, a part of "De revolutionibus", a treatise that would be published later. In spite of having a great deal of work, he frequently returned to his passion of studying the heavens.

Signature of Nicolaus Copernicus. *Source: Wikimedia Commons.*

Treasure of doits and bracteates from Toruń (Rubinkowo), 1498. *Photo by Krzysztof Deczyński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Beginning of treatise on coinage by Nicolaus Copernicus. *Photo by Krzysztof Deczyński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*



Impression of signet ring of Nicolaus Copernicus, on letter dated 21.VI.1541, showing Apollo, playing lyre. *Source: Library of Polish Academy of Knowledge in Kraków. Sign. AN.KIII.192.26923.*

Trigonometry treatise by Copernicus. *Photo by Krzysztof Deczyński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Numismatic scale with 42 weights. *Photo by Krzysztof Deczyński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Collection of herbs for preparation of medicines. This is how the workplace of Copernicus could have looked. *Photo by Krzysztof Deczyński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Copernicus, a medical graduate at Padua University, as a capable physician, helped in the control of a plague of cholera at the request of Bishop Fabian Luzjański. He produced healing mixtures of herbs, some of them of his own prescriptions with constituents, dependent on the weight of the patient. He cured bishops, courtiers, and ordinary people. The fame of his medical activities spread far and wide and he travelled to the sick outside of Warmia, for example, to Gdańsk, Elbląg, Lubawa and Królowiec. He also was summoned by Prince Albrecht for consultation with the private physician of King Zygmunt the Elder, the famous doctor, Jan Benedikt Solfa.

Manuscript of Copernicus on minor, medical prescriptions. *Photo by Krzysztof Deczyński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

"Praise for caesarean pills", a prescription of Copernicus. *Photo by Krzysztof Deczyński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Famous medical treatise by Antonio Guanierio, which Nicolaus Copernicus owned. *Photo by Jerzy Barycki. Source: Nicolaus Copernicus Museum in Frombork.*

Medical incunabulum. *Source: Library of Museum of Warmia and Mazury in Olsztyn.*

Copernicus owned in his library a famous incunabulum. The book consists of two treatises by Arnold Vilanova and Michał Savonarola (on the right). One can learn from it how, long ago, various diseases were cured. The book is particularly valuable because of the signature of Copernicus. Perhaps he was not inclined to believe all the views presented in the treatises, for by particular cures he wrote the Latin phrase, "Si verum est" ("If it is true").

Frombork, Astronomical Instruments of Copernicus (13)

In Frombork, Copernicus carried out most of his observations of the heavens. For this purpose, he constructed simple, astronomical instruments on the basis of the collected descriptions of ancient astronomers. These instruments were assembled on a specially constructed panel, the so-called pavimentum, on which he made his measurements. He carefully documented his observations, wrote down his calculations, and drew the geometric trajectories of objects moving in the heavens. He created mathematical proofs that explained the heliocentric theory.

Tower that was owned by Copernicus. Presumably, he spent time there, working on his heliocentric theory. *Source: Nicolaus Copernicus Museum, Frombork.*

Interior of museum, where there are mementos of Copernicus. *Source: Jerzy Barycki.*

Quadrant of Copernicus- reconstruction. *Source: Nicolaus Copernicus Museum, Frombork.*

Armillary sphere- astrolabium of Copernicus- reconstruction. *Source: Nicolaus Copernicus Museum, Frombork.*

Armillary sphere- astrolabium

"This was the most complicated observation instrument of Copernicus. It served for determination of the position of the Moon and the planets in the heavens. The instrument consists of six concentric, wooden rings, equipped with angular divisions and sight apertures. The first, inner ring becomes immobile on a pillar in the plane of the meridian. Others represent the ecliptic, equator, hour circle, and the meridians. With the aid of this instrument, one may determine the ecliptic width and length of an astronomical object". *Source of text: Nicolaus Copernicus Museum, Frombork.*

Solar quadrant

"Used to measure the height of the Sun above the horizon. A wooden square, three or four ells in size, with a carefully levelled surface. On it is drawn a quarter of a circle, divided into 90 equal parts and each of them with 6 subdivisions. In the centre of the circle, attached at right angles to the surface a cylindrical pin- the gnomon, the shadow of which indicates the height of the Sun. It is necessary to set up the instrument exactly in the plane of the local line of longitude on a floor, carefully levelled and oriented exactly in the plane of the horizon. With the aid of the quadrant, an astronomer can determine the inclination of the ecliptic with respect to the equator, meaning the distance of the equator from the tropics. One also may determine the latitude of the observation point." *Source of text: Nicolaus Copernicus Museum, Frombork.*

Triquetrum of Copernicus- reconstruction. *Source: Nicolaus Copernicus Museum, Frombork.*

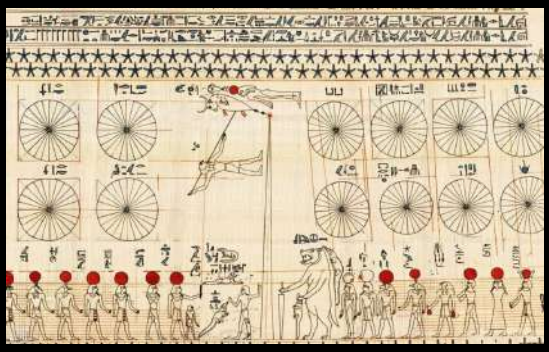
Parallax triangle- triquetrum

"Copernicus used this instrument to determine the parallax of the Moon, meaning to measure its distance from the Earth. This instrument consists of three battens of fir wood, joined by screws, to form an isosceles triangle. On one of the battens are two metal sights, on a second one, a scale. The third batten, to which the ends are attached, remains mobile and is attached to a wooden pole by means of hinges, permitting rotation of the battens around the pole." *Source of text: Nicolaus Copernicus Museum, Frombork.*

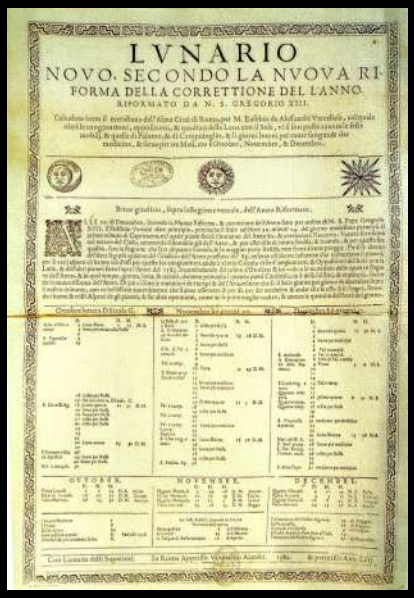
Early Publications (14)

Gregorian calendar

From ancient times, the life of people on Earth was dependent on the position of our planet in the solar system. Already, in 3,000 BCE, astronomers in ancient Egypt, on the basis of observations of the heavens, introduced a 365-day calendar for the agrarian year. Later, each day was divided into twelve parts and later into 24 hours. These fundamental discoveries normalized the approach to counting time.



Egyptian calendar from the tomb of Senenmut, an Egyptian architect (18th Dynasty). *Source: Wikimedia Commons.*



Gregorian calendar, solar, approved in 1582 by Pope Gregory XIII. *Source: Wikimedia Commons.*

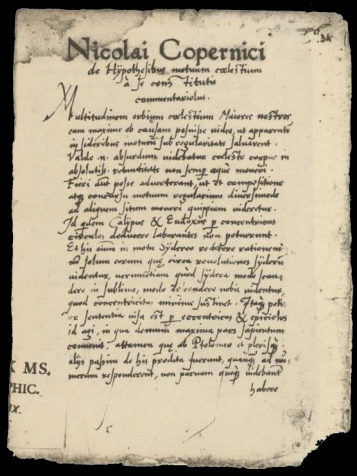
Copernicus took part in work, leading to modification of the Julian calendar. The new calendar was termed Gregorian. Approved by Pope Gregory XIII in 1582, it is in general use up to modern times.

Pope Gregory XIII receives the new calendar. *Source: Wiikimedia Commons.*

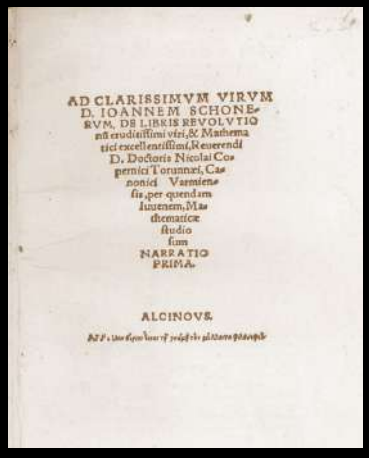
Preliminary publications on the heliocentric theory of Copernicus

Copernicus valued the treatise, “The Almagest”, written in the second century by the Greek author, Claudius Ptolemaeus. However, he believed that the geocentric theory was too complex and contained serious errors. On the basis of data, gathered by ancient astronomers, he analyzed the current state of knowledge and soon afterwards constructed instruments for observation of the heavens, after which he made several tens of his own observations. Applying mathematics and trigonometry as well as spatial geometry, he found that the Earth and other planets move around the Sun. He presented the first outline of his simple and logical, heliocentric theory in “The Commentary” (ca. 1510). However, Copernicus held back from publishing a complete treatise, fearing that lack of understanding of the heliocentric theory would disturb the order of the contemporary world. From time to time, he was persuaded to disclose his discoveries publicly, especially by those, knowledgeable about the liberal sciences, Mikołaj Schonberg, Cardinal of Capua, and Tiedemann Giese, Bishop of Chełmna.

“The Almagest”, with the geocentric theory of Claudius Ptolemaeus, published in 1515. *Source: Wikimedia Commons.*



“The Commentary” of Copernicus, with the first information about the heliocentric theory, published ca. 1510. *Source: Wikimedia Commons.*



“Narratio prima”, a summary of the heliocentric theory of Copernicus, presented by Joachim Retyk, in 1540. *Source: Wikimedia Commons.*

“On the Revolutions of the Heavenly Spheres” (15)

Joachim Retyk, a young professor of mathematics from Wittenberg, was fascinated with Copernicus. He travelled to Frombork in 1539. He was the one, who convinced the ailing master to publish a manuscript in print and helped to prepare the notes for publication. The life work of Copernicus, “On the Revolutions of the Heavenly Spheres”, was published in 1543 in Nuremberg. Unfortunately, by then, Copernicus was already on his death bed. The publication stirred up the existing state of knowledge about the world. The Church put it on a list of forbidden books in 1616 and this went on for more than twenty years.

The solar system in the manuscript of Nicolaus Copernicus, “On the Revolutions of the Heavenly Spheres”, with a drawing of the heliocentric model, 1543. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

List of Forbidden Books, 1616. Photo by Krzysztof Deczyński. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Nicolaus Copernicus on his death bed, his fingers touching the newly published book, the work of his life, “On the Revolutions of the Heavenly Spheres”. Aleksander Lesser, ca. 1873. *Source: Nicolaus Copernicus House in Toruń,*

The costliest Polish book, the treatise, “On the Revolutions of the Heavenly Spheres” (De revolutionibus orbium coelestium) of Nicolaus Copernicus, published in 1566. *Source: Wikimedia Commons.*

Conversation with God

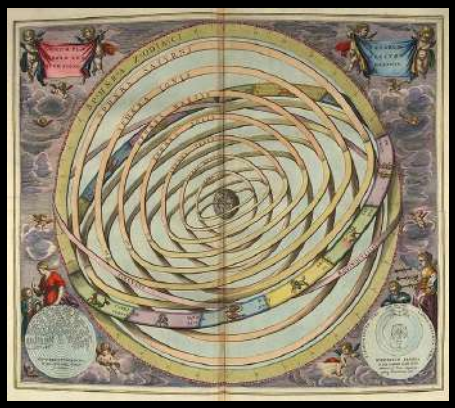
The painting, “The Astronomer Copernicus, or the Conversation with God”, is the masterpiece of Jan Matejko, painted in homage to Nicolaus Copernicus on the 400th anniversary of his birth, in 1873. The title of the painting is the cause of certain reflections. From reading the biography of Copernicus, it is obvious that he believed in God as the Creator of the Universe. He lived in the belief that everything related to us is His work and that He exists in natural harmony and simplicity. He also knew that the Creator gave to scholars knowledge and license to arrive at the truth.

“The Astronomer Nicolaus Copernicus or the Conversation with God”. *Jan Matejko, 1873.* *Source: Wikimedia Commons.*

The Essence of the Discovery by Copernicus (16)

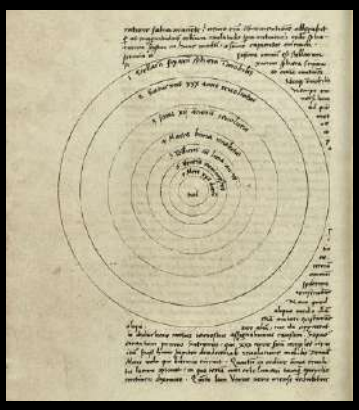
His observations, although they were very exact, did not form the foundations of the astronomy of Copernicus, but rather contemplations on the harmony of the cosmos. Digging more deeply into geocentric astronomy, Copernicus concluded that it describes the construction of the world by drawing upon a rather random collection of hypotheses. He had great respect for the ability of the most accomplished representatives of ancient astronomy but at the same time he wrote about them in a dedication to "De revolutionibus": "it happened to them the same way as to someone, who took from here and there hands, feet, a head, and other parts of the body, and painted them, in fact, very well, but yes, in bringing them to one and the same body, they would not suit each other and what would arise from them would be more like some kind of monster than a picture of a human being" (translation by M. Brożek).

Claudius Ptolemaeus, ancient Greek astronomer and mathematician, born 100, died 167. *Source: Wikimedia Commons.*



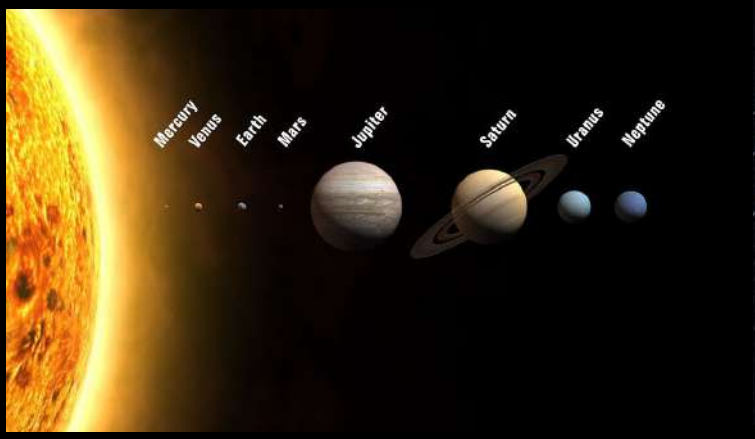
Geocentric system of Ptolemaeus- the Sun and the planets move around the Earth. *Source: Wikimedia Commons.*

Nicolaus Copernicus, Polish astronomer and mathematician, born 1473, died 1543. Copperplate from ca.1780, author Konrad Westemayr. *Source: Nicolaus Copernicus Public Provincial Library in Toruń.*

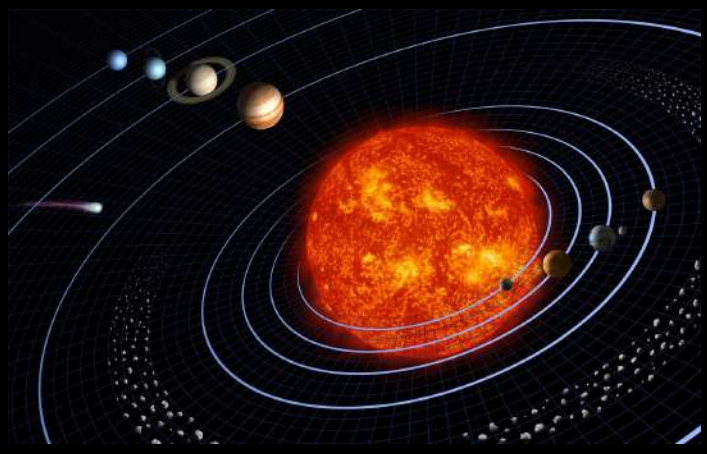


Heliocentric system of Copernicus- the Earth and planets move around the Sun, manuscript of "De revolutionibus". *Source: portal.copernicus.toruń.pl.*

"Copernicus sought the simplest solutions, which in a cogent, logical and harmonious manner would explain all observed movements of the planets. Finally, he arrived at the conclusion that this condition is met by a system, in which the Sun is at the centre. On the other hand, the planets move around it in a sequence, which determines the speed of their movement, ranging from the fastest, Mercury, through Venus, Earth, Mars, Jupiter, to the slowest, Saturn."



Planets of the Solar System. File:Planets2013.svg. *Source: Wikimedia Commons.*



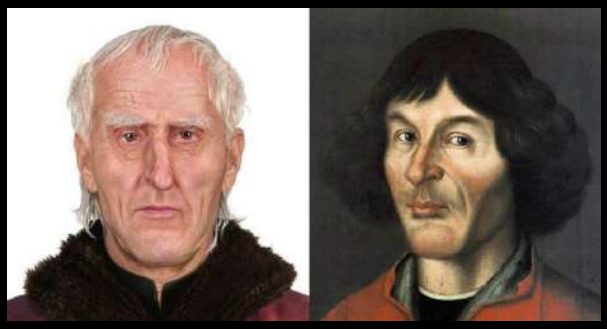
The Solar System. *File:solar sys8. Source: Wikimedia Commons.*

"Farther away in the universe of Copernicus lay only stars, which on account of the recognition by the astronomer from Frombork of the daily rotation of Earth about its own axis, could remain immobile. Therefore, the most important discovery by Copernicus rested upon the understanding that the harmony of the world became written in the form of the heliocentric system, in which the Earth is one of the planets, or one of many "centres of mass", and distant stars need not whirl around it at the giddy pace of one rotation every 24 hours. The remainder gave rise to such an application of mathematics and observations in order to catch this harmony most precisely: to define the orbits of the planets, their dimensions and position in space. A matter, requiring an excellent knowledge of geometry and many hours spent under a clear sky and also many time-consuming calculations, but in spite of everything, secondary."

Text by Jarosław Włodarczyk, Institute of the History of Science, Polish Academy of Sciences. *Source: portal copernicus.toruń.pl. Selection of photographs and documents: Jerzy Barycki.*

Frombork, a Repeated Funeral for Copernicus, 2010 (17)

The first funeral of Canon Nicolaus Copernicus took place in Frombork Cathedral, in May 1543. However, the exact burial site of Copernicus was not known until 2005. Then, a skeleton was found located under the floor of the church. Examination of the DNA of the skeleton and a hair, found in one of the books of Copernicus, gave a positive result. It was acknowledged that these were the remains of Nicolaus Copernicus.



Reconstruction of the face of Nicolaus Copernicus, based on the appearance of his skull. Author: Deputy Inspector Dariusz Zajdel, M.Sc., from the Central Criminal Laboratory, Main Police Command, Warszawa. On the right: Portrait of Copernicus, Bourgeois Room, Old City Market, Toruń, ca. 1580. *Source: Wikimedia Commons.*

Frombork Cathedral. *Source: photo by Jerzy Barycki.*

Before the second funeral, the funeral procession passed through several cities in Warmia, with which Copernicus had been connected. Crowds of citizens bade farewell to this great son of their nation. The repeated funeral of Copernicus took place on 22 May 2010 in a grand, national ceremony, appropriate for this famous citizen of Poland and the world. Taking part were spiritual dignitaries and laypeople and the rectors of universities as well as of scientific institutions in Poland and abroad. There were standard bearers, representations of all states, of civil and military environments. After his death, Copernicus gained greater recognition than in his lifetime. *Photographs from the funeral. Source: Nicolaus Copernicus Museum in Frombork.*

Epitaph of Nicolaus Copernicus from the repeated funeral. *Source: photo by Jerzy Barycki.*

Copernicus, Poland's Gift to the World (18)

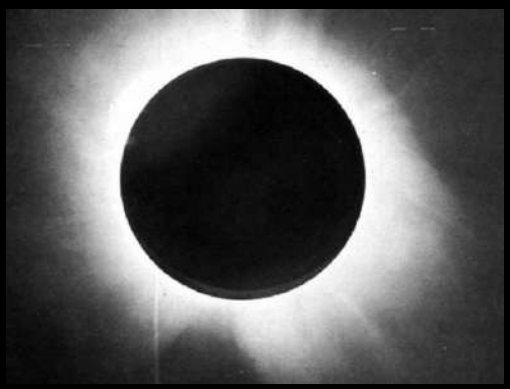
Poland, receiving the communion in the year 966, became a part of Christian Europe and played a significant role in world events. Our small nation and its people, in spite of many wars and annexations, preserved its own identity and culture. From it came famous citizens of the world, such as St. John Paul II, Maria Skłodowska-Curie, Fryderyk Chopin, and the main hero of this anniversary display, Nicolaus Copernicus.

"The greatest legacy, which Copernicus left to posterity was his creative thought and the revolutionary treatise, which he presented. But for Poles he has much greater significance. Poland became richer through his life, and we Poles have a feeling of spiritual unity with him and a common heritage. With his work, he enriched the collective heritage of the people's soul, for Poland it is a symbol of her participation in and contribution to development of the world's culture, giving us a deep feeling of national pride." *Source: "Copernicus and His World", Wanda M. Stachiewicz.*

Bust of Nicolaus Copernicus. Sculptor: Teodor Rygier, in Frombork Museum. Photo by Jerzy Barycki. *Source: Nicolaus Copernicus*

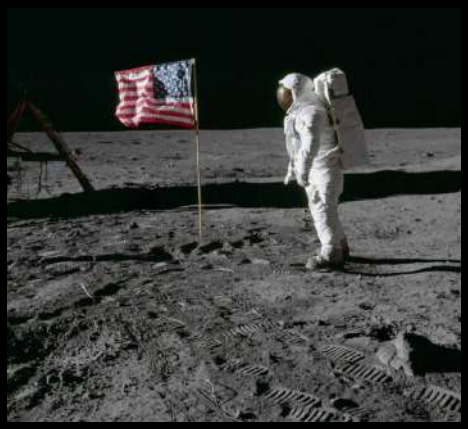
Nicolaus Copernicus among the learned, Władysław Barwicki, 1892, watercolours by Michał Elwiro Andriolli. Nicolaus Copernicus, presenting the heliocentric system, was put in the centre of the picture. Behind him, proudly leaning on a telescope, supporting him, Galileo. To the left, Aristotle and Ptolemy are shown, to the right, the astronomers of Egypt and ancient Babylon. In the foreground are modern followers, including Jan Kepler and Isaac Newton. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

In time, his famous successors, Galileo Galilei (inventor of the optical telescope), Johannes Kepler (discoverer of elliptical orbits of the planets), and Isaac Newton (discoverer of theory of gravity) supported the heliocentric theory of Copernicus. Copernicus opened a window on the universe, hastened the development of the understanding of and the need for study of the planets around the Earth. In time, people landed on the Moon, marking the beginning of extraterrestrial activities.



One of the photographs of Sir Arthur Eddington, showing a complete eclipse of the Sun, 29 May 1919, which was used to confirm the general theory of relativity. *Source: Wikimedia Commons.*

Photograph of the Earth, rising above the horizon of the Moon, taken in an orbit around the Moon on 24 December 1968 by William Anders during the Apollo 8 Mission. *Source: Wikimedia Commons.*



20 July 1969, Neil Armstrong, the first human to stand on the surface of the Moon. *Source: Wikimedia Commons.*

Cult of Copernicus (19)

Copernicus died in 1543. Although he lived more than five centuries ago, his fame still lives on. Examples of the popularity of the astronomer are memorials around the world in the form of statues, the names of streets, buildings, parks, and also the practice of giving his name to schools. Proof of the ceaseless fame of Copernicus is the price of a copy of the first edition of the treatise, “De Revolutionibus” from 1543, which recently reached ca. 1.5 million US dollars. Dedicated to him are museums, centres and parks, enjoying a great deal of popularity in Poland. Copernicus memorabilia in different forms, for example, banknotes, postage stamps, and medallions are continual attractions. The memory of Copernicus will live as long as it will live in us.

Copernicus, in defining the place of people in the universe, always will remain in the pantheon of the most famous scientists in the world as the creator of modern astronomy.

Nicolaus Copernicus, sculptor Bertel Thorvaldsen, Warszawa, Poland, 1830. *Source: Wikimedia Commons.*

Nicolaus Copernicus, sculptor Another Believer, Chicago, Illinois, USA, 2015. *Source: Wikimedia Commons.*

Nicolaus Copernicus, copy of sculpture of Bertel Thorvaldsen. Montréal, Québec, Canada, 1966. *Source: Wanda Stachiewicz Polish Library, Montréal.*

Granite bust of Nicolaus Copernicus, sculptor Alfons Karny. Polish Gift to United Nations Organization (1970). *Source: Wikimedia commons.*

Marble bust of Nicolaus Copernicus, Valhalla. *Source: Wikimedia Commons.*

Bust of Nicolaus Copernicus in SS Johns” Cathedral, Toruń. *Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Sculpture of Nicolaus Copernicus, collections of District Museum, Toruń. *Photo by Krzysztof Deczyński. Source: Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum.*

Bust of Nicolaus Copernicus, Jordan Park, Kraków. *Source: Wikimedia Commons.*

Bust of Nicolaus Copernicus, Poznań, Przełajowa St. *Source: Wikimedia Commons.*

Bench of Nicolaus Copernicus in Frombork (left) and Olsztyn (right). *Source: Wikimedia Commons.*

Statue of Nicolaus Copernicus, Frombork. *Source: Wikimedia Commons.*

Statue of Nicolaus Copernicus in Frankfurt. *Source: Wikimedia Commons.*

Statue of Nicolaus Copernicus, Polish Academy of Knowledge, Kraków. *Source: pau.krakow.pl.*

Statue of Nicolaus Copernicus, Salzburg. *Source: Wikimedia Commons.*

The Nicolaus Copernicus University in Toruń jointly with its partners has created a rich information platform about Copernicus, "Nicolaus Copernicus Thorunensis", accessed on the Internet page, *http:// copernicus.torun.pl.* Another example of this popularization is the creation of the "Copernicus" Science Centre in Warszawa. There also are special programmes, for example, the European programme of observation of the Earth, called "Copernicus, Europe's eyes on Earth". The famous astronomer is omnipresent, for he is part of Polish and the worldwide history of science of the universe.

The "Copernicus" Science Centre, Warszawa. *Source: Wikimedia Commons.*

Nicolaus Copernicus University, Toruń. *Source: Wikimedia Commons.*

"Copernicus" is a collaborative programme of observation of the Earth, the purpose of which is looking at our planet and its environment for the benefit of the citizens of Europe. *Source: https://copernicus.eu/en/events/events/dubai-world-expo as well as https://en/wikipedia.org/wiki/Copernicus_Programme.*

Special stamp of Canada Post, published for the 550th anniversary of the birth of Nicolaus Copernicus. *Source: Canada Post Project, carried out by Grażyna Gałęzowska.*

Special stamp of Poczta Polska for the 550th anniversary of the birth of Nicolaus Copernicus. *Source: Poczta Polska.*

International selection of postage stamps with a likeness of Nicolaus Copernicus. *Source: Wikimedia Commons.*

Stamps of Poczta Polska with a likeness of Nicolaus Copernicus.

Above, stamps released by Poczta Polska, with catalogue numbers, from the left: ark2109, zn3224, zn0765, zn0365, zn0166, zn0667, and zn0668. *Source: Poczta Polska, graphic material KZP Marek Jedziniak.*

Plaster model of medallion for 500th Anniversary Jubilee of Copernicus in Canada, 1973. *Source: Archives of the W. Reyment Foundation.*

Banknotes, coins and medallions with a likeness of Nicolaus Copernicus.

Source: Wikimedia Commons.

Source: szkolneblogi.pl

Source: Wikimedia Commons.

Souvenir medallion for 550th Anniversary Jubilee of Copernicus in Canada, 2023. *Source: Jerzy Barycki.*

Canada: Traces of Copernicus (21)

Canada is located far from Poland, but Polonia here remembers its well-known compatriots, living beyond the Wisła. In this country, one can come across many memorabilia of Nicolaus Copernicus. One of the first such monuments was the astrolabium with a sundial in Windsor, Ontario, funded by Polonia in 1954. Another activity was the construction of a monument of the astronomer in Montréal to commemorate the millennium of the Polish baptism and the one-hundredth anniversary of the Canadian Confederation (1966/1967). The monument is a faithful copy of the famous statue of Copernicus in Warszawa. There is a considerably larger number of traces. They include, among others, the Retirement and Invalids' Residence in Vancouver, the statue on an island in the Bow River at Calgary, the hill in Manitoba, and Copernicus Lodge in Toronto. We can find many names of streets, parks, buildings, and schools. The process of naming places after Copernicus goes on without end, for the memory of him is continuously alive.

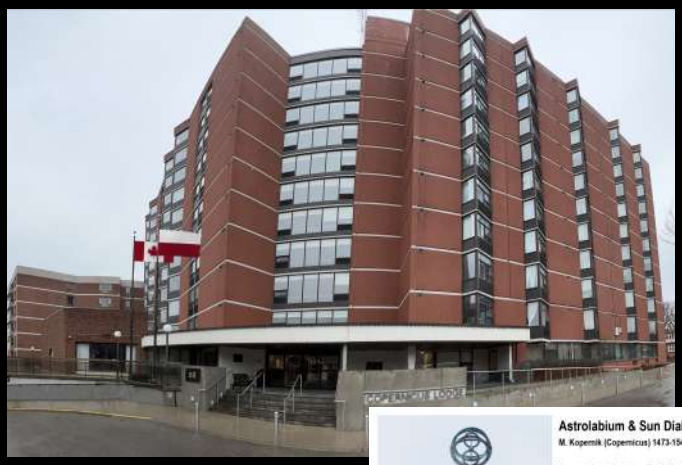
The Nicolaus Copernicus Residence of Retired and Invalids in Vancouver, British Columbia, came into being in 1973. *Source; kopernik-foundation.org.*

Right: memorial plaque from the opening of the building. *Source: photo by Lech Galezowski.*

Statue of Nicolaus Copernicus in Calgary, Alberta, 1974. Island in Bow River. *Source: photo by Lech Galezowski.*

Kopernik Road, Barry's Bay, Ontario. *Source: photo by Alina Chiapetta.*

Sign on memorial hill named after Nicolaus Copernicus in Manitoba, 1973. *Source: photo by Lech Galezwski.*



Copernicus Seniors' Lodge, created in 1973, Toronto. Many people of Polish heritage occupy it. *Source: photo by Andrew Chomentowski.*

Statue of Nicolaus Copernicus in Montréal, 1966/1967, and an act, handing over the ownership to the City of Montréal. *Source: Wanda Stachiewicz Polish Library, Montréal.*

Right: Copernicus Astrolabium and Sundial, Jackson Park, Windsor, Ontario. Funded by Polonia to mark the one-hundredth anniversary of Windsor in 1954. The statue was repaired in 2017 by the Polonia Centre (Windsor) Inc. to mark the 150th anniversary of Canada and the 125th anniversary of the Holy Trinity Church in Windsor. *Source: CPC-Windsor archives.*

Celebration of the 500th Birthday Jubilee of Copernicus in Canada, 1973

The 500th birthday jubilee of Copernicus in 1973 was a special occasion to honour our great astronomer in Canada. Then, many scientific conferences and meetings took place in Poland. The Organizing Committee with Chair Zdzisław Przygoda prepared a jubilee programme under the patronage of the Hon. Roland Michener, Governor General of Canada, and the Canadian Polish Congress. Professor Wilhelmina Iwanowska, from the Institute of Astronomy of the Nicolaus Copernicus University in Toruń, visited Canada, giving lectures and emphasizing the importance of the heliocentric theory of Copernicus. The process of building a spectrograph in Canada was begun and ended in success and in 1974, it was conveyed to the Astronomical Observatory at Piwnice, near Toruń. A description of these events was presented in the book, "Copernicus Jubilee in Canada, 1473-1973", by Maria R. Lemanski.

Dr. Z. Przygoda, Dr. E.H. Richardson, and Dr. W. Iwanowska at ceremony, Piwnice, Poland. *Source: "Copernicus Jubilee in Canada, 1473-1973".*

Cover of book and schedule of Jubilee, "Copernicus Jubilee in Canada, 1473-1973". *Source: "Copernicus Jubilee in Canada, 1473-1973".*

SCHEDULE FOR DR. W. IWANOWSKA
(as of Dec. 1, 1972)

Arrive **Toronto**	Friday	December	29	Dr. MacRae
	Saturday	"	30	Dr. Przygoda & Friends
	Sunday	"	31	Dr. Przygoda & Friends
	Monday	January	1	Dr. Przygoda & Friends
Leave Toronto	Tuesday	"	2	
Arrive **Halifax**	Tuesday	"	2	Polish Community & R.A.S.C.
	Wednesday	"	3	
Leave Halifax	Thursday	"	4	
Arrive **Montreal**	Thursday	"	4	Dr. G. Beaudet, R.A.S.C. and
	Friday	"	5	Polish Community
	Saturday	"	6	
Leave Montreal	Sunday	"	7	
Arrive **Ottawa**	Sunday	"	7	Dr. J. L. Locke and
	Monday	"	8	Polish Community
	Tuesday	"	9	
Leave Ottawa	Wednesday	"	10	
Arrive **Toronto**	Wednesday	"	10	Dept. of Astronomy & D.D.O.
	Thursday	"	11	McLaughlin Pl. & Polish
	Friday	"	12	Community, R.A.S.C. and
	Saturday	"	13	Royal Can. Inst.
Leave Toronto	Sunday	"	14	
Arrive **Winnipeg**	Sunday	"	14	Polish Comunity Social Hour
	Monday	"	15	R.A.S.C. & Planetarium &
	Tuesday	"	16	Univ. of Winnipeg
Leave Winnipeg	Wednesday	"	17	
				23
Arrive **Calgary**	Wednesday	"	17	R.A.S.C.
	Thursday	"	18	
Leave Calgary	Friday	"	19	
Arrive **Victoria**	Friday	"	19	Dom. Astrophysical Observ.
	Saturday	"	20	
	Sunday	"	21	
	Monday	"	22	
	Tuesday	"	23	
Leave Victoria	Wednesday	"	24	
Arrive **Vancouver**	Wednesday	"	24	R.A.S.C.
Leave Vancouver	Thursday	"	25	and Polish Community
Arrive **Saskatoon**	Thursday	"	25	Univ. of Sask., Saskatoon
	Friday	"	26	and Polish Community
Leave Saskatoon	Saturday	"	27	
Arrive **Edmonton**	Saturday	"	27	Polish Community
	Sunday	"	28	
Leave Edmonton	Monday p.m.	"	29	
	or Tuesday a.m.	"	30	
Arrive **Toronto**	Monday p.m.	"	29	Dr. MacRae
	or Tuesday a.m.	"	30	Dr. Przygoda
	Wednesday	"	31	
Leave Toronto	Thursday	February	1	
Arrive **Windsor**	Thursday	"	1	Polish Community and
Leave Windsor	Friday	"	2	University of Windsor

Return to Washington or New York

Spectrograph able to work with a telescope (TSC), so-called Canadian Copernicus spectrograph. Developed by G.A. Bradley and E.H. Richardson at the Dominion Astrophysics Laboratory, Victoria, Canada, a Copernicus-related gift of Science and Canadian Polonia to the Nicolaus Copernicus University. *Source: Institute of Astronomy, Nicolaus Copernicus University, https://astro.umk.pl/instytut-observatorium-w-piwnicach.*

Dr. W. Iwanowska checks the new Canadian spectrograph, mounted on a 90-cm telescope ca. 1975 (ordered 15 May 1974). *Source: "Copernicus Jubilee in Canada, 1473-1973".*

COPERNICUS CELEBRATION — More than 400 members of Windsor's Polish community gathered at Cleary Auditorium Sunday to commemorate the 500th anniversary of the Polish astronomer Nicholas Copernicus. Dr. Stanley Haidasz, left, minister of state, guest speaker at the banquet Sunday night, chats with 19-year-old Barbara Publicz, of Windsor. Looking on is chairman for the evening, professor Mieczysław Ciężkowski, of Windsor and professor Wilhelmina Iwanowska, director of the Astronomical Observatory at Nicholas Copernicus University, Toruń, Poland, who presented a lecture on Copernicus.

Poles celebrate Copernicus' birthday

Astronomer Nicholas Copernicus overturned yesterday that the sun was the centre of the universe instead of the earth, but it was Copernicus himself who was the centre of attention at the Cleary Auditorium Sunday night.

More than 400 members of Windsor's Polish community celebrated the 500th anniversary of the birth of the Polish scientist Sunday. They were joined by Minister of State Dr. Stanley Haidasz, the man responsible for the government's multiculturalism program, and featured speaker at a banquet wrapping up the day's activities.

Earlier in the day, Dr. Haidasz met with a multicultural steering committee that has been working for two years in Windsor and district for a union of various ethno-cultural groups to set up the Windsor Area Multicultural Council.

Dr. Haidasz said formation of multicultural centres is part of the government's multicultural program as announced by the prime minister in the fall of 1971.

He congratulated the steering committee for its progress so far and urged the council to continue its work in bringing the area's different ethnic groups together.

Multicultural centres will go a long way in getting Canadians to know each other and to share each other's cultures," he told the council.

In the evening, Dr. Haidasz paid tribute to the vitality of the 1,000-strong Polish community in Windsor.

He thanked the organizers of the celebration of Copernicus' anniversary on behalf of the government and said "I regard this commemoration as a significant contribution to the Canadian multicultural mosaic."

Speaking in English and Polish, Dr. Haidasz said Copernicus was a theologian, physician, and mathematician as well as an astronomer, and is regarded around the world as a model scholar.

"Today when man has succeeded in landing on the moon and has sent machines and satellites to Mars and beyond, the original work of Copernicus shines all the more brightly and impresses upon mankind the tremendous progress of science and technology since Copernicus' helio-centric theory replaced the-earth-centred theory."

Dr. Haidasz said the rapid technological advances that are bringing great changes to our lives and weakening society's cohesion make the move towards multiculturalism a timely one.

Polish songs and dances were performed by the Krakowiaki Folk Dancers, the Holy Trinity Church Choir and the Polish Youth Group and Youth Band.

Professor Wilhelmina Iwanowska, from Copernicus' home town of Toruń, Poland, and director of the Astronomical Observatory at Nicholas Copernicus University in Toruń, outlined the work of Copernicus.

Dr. Iwanowska, with participation of Hon. Stanley Haidasz, Minister of State for Multiculturalism, Canada, at meeting with Polonia, Windsor, 2 February 1973, press conference. *Source: The Windsor Star.*

First Jubilee Committee for 500th Anniversary of Copernicus in Canada

The first Jubilee Committee for the 500th Anniversary of Copernicus in Canada arose in 1973 through the W. Reymont Foundation, chaired by Prof. C. Sadowski. He organized numerous competitions for the students in Polonia schools. There were displays and a library, for which books about Copernicus were purchased as well as a copy of the manuscript "De revolutionibus". Small-scale copies of the likeness of Copernicus were purchased and a brass cast of a bust of Copernicus was created. Many events were organized, including a Copernicus evening at the Royal Ontario Museum (12.02.1973). As well, donations amounting to $750.00 were obtained toward the cost of the spectrograph for the N. Copernicus University in Toruń. *Source: Report from XXVI Meeting, General Meeting Polish Alliance of Canada, from Archives of W. Reyment Foundation.*

Astronomical Observatory UNC at Piwnice was established by Prof. Władyisław Dziewulski and Prof. Wilhelmina Iwanowska, scientists at Toruń University. Right: 32-metre parabolic radiotelescope, constructed in 1991 for the needs of UNC-PAN radio-astronomy at the Observatory. *Source: Institute of Astronomy UNC, https://astro.umk.pl/instytut-observatorium-w-piwnicach.*

Banquet on the occasion of Copernicus Year, at Place Polonaise in Grimsby 1973. From left, seated at table: Julian Dobranowski, President of W. Reymont Foundation, with his wife, Weronika. With them, Jesse Flis and Stanley Haidasz, Minister of State for Multiculturalism, Federal Government of Canada, with prizewinners of competition of knowledge about Nicolaus Copernicus. *Source: photo by W.H. Leppek.*

Plaster model of bust of Nicolaus Copernicus, Jubilee of 500th Anniversary in Canada. *Source: Archives of W. Reymont Foundation.*

Left: Photograph of banquet on occasion of Copernicus Year, 1973. *Source: Archives of W. Reymont Foundation.*

Acknowledgements (23)

The display was prepared by the Polish-Canadian Business and Professional Association of Windsor, with the assistance of institutions in Poland and Canada. The project enriched the cultural ties, binding Polonia, Canada, and Poland. We thank the Head Office of the Canadian Polish Congress for taking on the Honorary Patronage of the Jubilee of Nicolaus Copernicus and for proclaiming 2023 to be Nicolaus Copernicus Year, as the 550th Anniversary of his birth and the 480th Anniversary of his death.

We thank institutions in Poland

Muzeum Okręgowe w Toruniu

Książnica Kopernikańska w Toruniu

Muzeum Mikołaja Kopernika

Muzeum Uniwersytetu Jagiellońskiego

Muzeum Warmii i Mazur w Olsztynie

We thank institutions in Canada

Polski Instytut Naukowy w Kanadzie i Biblioteka Polska

University of Windsor

PCBPA – Polish Canadian Business and Professional Association of Windsor

Honorary Patrons of Jubilee of Nicolaus Copernicus (550) in Canada, 2023

World Polonia Council

Embassy of the Republic of Poland in Ottawa

Canadian Polish Congress

We offer expressions of gratitude to all institutions and individuals for help in the realization of the present project, in particular for valuable source materials:

- Nicolaus Copernicus House in Toruń, Branch of Toruń District Museum, Poland, Michał Kłosiński (consultations) and Jolanta Jużków;
- Nicolaus Copernicus Public Provincial Library in Toruń, Poland, Aleksandra Męczekalska,
- Copernicus Science Portal (*www.copernicus.torun.pl*), Nicolaus Copernicus University in Toruń, Poland, Michał Targowski,
- Nicolaus Copernicus Museum in Frombork, Poland, Małgorzata Czupajło,
- Museum of Warmia and Magury in Olsztyn, Poland, Magda Walkuska,
- Museum of the Jagiellonian University in Kraków, Poland, Marcin Banaś,
- Lidzbark Warmiński, Poland, Jacek Drążkowski, astronomer (consultations),
- Library of University of Warszawa, Poland, Katarzyna Śląska,
- Polish Scientific Institute in Canada and Wanda Stachiewicz Polish Library in Montréal, Québec, Canada, Stefan Władysiuk,
- Leddy Library, University of Windsor, Ontario, Canada, Pascal Calarco,
- University of Windsor, Ontario, Canada, Frank Simpson,
- Calgary, Alberta, Canada, Grażyna and Lech Gałęzoiwski,
- Association of Polish Engineers in Canada, Toronto Branch, Canada, Krystyna Sroczyńska.

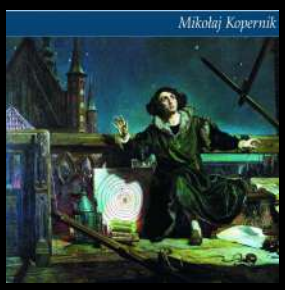
Jerzy Barycki, President, PCBPAW, Project Coordinator

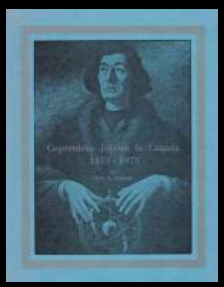
Windsor, November 25, 2022

We thank the sponsor of this publication,

the Polonia Centre (Windsor), Inc., Ontario, Canada.

Bibliography





Published Sources

- Biliński Bronisław: *Najstarszy życiorys Mikołaja Kopernika z roku 1588 pióra Bernadina Baldiego. (The oldest biography of Mikołaj Kopernik from 1588, the pen of Bernadino Baldi)*. Wrocław, National Ossoliński Institute, Publishing House of Polish Academy of Sciences, 1973 (1).
- Birkenmajer, Ludwik Antoni: *Stromata Copernicana*. Kraków, Polish Academy of Knowledge, 1924 (2).
- Birkenmajer, Aleksander: *Mikołaj Kopernik: dzieło wielkiego astronoma. (Mikołaj Kopernik: the work of the great astronomer)*. Warszawa, Science and Technology Quarterly, no. 3, 1973.
- Rybka, Eugeniusz Przemysław: *Kopernik: Człowiek i Myśl (Kopernik: The Man and His Mind)*. Warszawa, Current Knowledge, 1972 (3).
- Stachiewicz, Wanda: *Kopernik i jego świat.(Kopernik and His World)*. Montréal, Polish Scientific Institute in America, Canadian Branch, 1973 (4).
- Czupajło, Małgorzata: *Mikołaj Kopernik*. Frombork, Mikołaj Kopernik Museum, 2003 (5).
- Obłąk, B.P. Jan: *Mikołaj Kopernik- Życie i Działalność, (Mikołaj Kopernik- Life and Work)* Warmia Studies, XI, 1974
- Mazurkiewicz, Janina: Nicolaus Copernicus Museum, Branch of District Museum in Toruń. Wrocław, Publishing House VIA, 1999.
- Lemanski, Maria R.: *Copernicus Jubilee in Canada 1473-1973.* Toronto, Department of the Secretary of State, W. Reyment Foundation, 1977 (6).

Internet

- Copernicus Scientific Portal- *www.copernicus.torun.pl.*
- Wikimedia Commons and other Internet pages marked in sources of information.
- Copernicus BBC 2of6 The Beauty of Diagrams, May 23, 2011- YouTube *https://www.youtube.com/watch?v=E6_j8Xv2ae0&t=37s.*

Text and Graphical Presentation

- Jerzy Barycki, Windsor, Ontario, Canada.

FINAL, 04.07.2022.

Translated by Frank Simpson, Windsor, Ontario, Canada 8 June 2022.