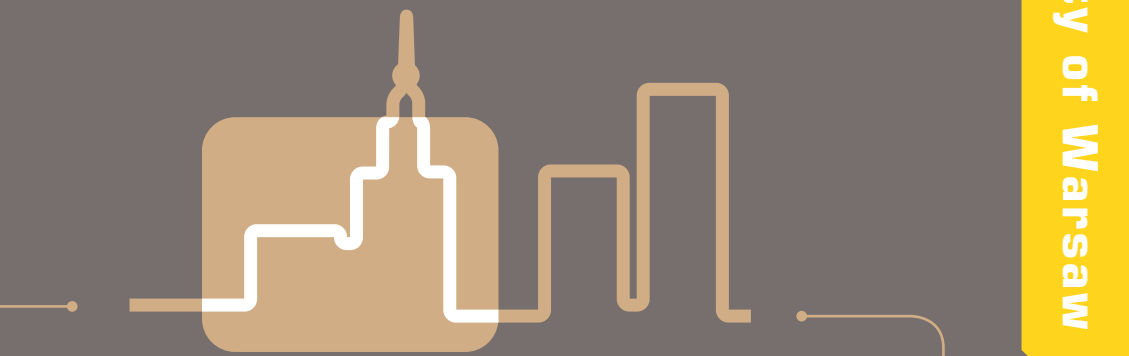
University of Warsaw



ICPC 2012 | University of Warsaw

Welcome @ UW

Special issue of the "University of Warsaw Paper"

2012 World Finals Warsaw

acm International Collegiate Programming Contest

IBM event sponsor

UNIVERSITAS VARSOVIENSIS Host

"You bested 24,680 of your peers from six continents who challenged you to do your best. So here you are, champions all, with the opportunity to earn medals"

– prof. Bill Poucher,
the executive director of ACM-ICPC

"The fact of qualifying for the finals is a great achievement in itself. I just hope that the contest will be a satisfying experience to all members of all teams"

– prof. Katarzyna Chałasińska-Macukow,
the Rector of the University of Warsaw

"It has to be remembered that participation in the contest is a great physical and psychological effort, too. The contestants have to be in top form for five hours"

– prof. Jan Madey, the director
of the 2012 ACM ICPC World Finals

"It is not a direct competition, as for instance in volleyball, where one team has to beat the other"

– Andrzej Gąsienica-Samek, the master
of ICPC 2003 World Finals in Beverly Hills

UW UNIWERSYTET WARSZAWSKI

TABLE OF CONTENTS

the university sphere

Interdisciplinary studies, new interesting branches of studies opened every year, participating in the national and international student exchange programmes, a broad range of subjects included in the teaching offer, highly qualified academic staff are the characteristic features of the University of Warsaw.

This section relates:

- the history and the most recent research;
- what we do and who is studying with us;
- who comes to us and where it is that we go;
- tidbits of university life;
- new buildings at the University.

UNIVERSITY FLASH

The University of Warsaw is the largest and best institution of higher education in Poland. Currently it has nearly 52,000 students in more than 120 branches and specializations of Bachelor and Masters studies, and more than 3,000 students in 35 branches of Ph.D. studies.

The University of Warsaw offers, subject to conditions, courses of study with Polish, English, Russian and French as the language of instruction. The University has introduced e-learning, opened language courses and made language certification available.

The high level of research staff, rich educational offer and unique branches of study attract students from Poland and abroad. In the year 2011, the University had 1432 foreign students, of which no less than 83% were enrolled at stationary courses, most often in the faculties of International Relations, European Studies, Economics and Management.

19 faculties and **30** research and teaching units

over **2,900** research topics

research and teaching staff of **3,300**

including over **850 professors**

200 YEARS IN A MINUTE

1816

The University of Warsaw was established in 1816, in an uneasy period. Just two decades earlier Poland lost its independence, its territories partitioned by the neighbouring powers.

After the Napoleon's defeat and the Congress of Vienna, Warsaw got under the Russian control and the consent of Tsar Alexander I was necessary to establish an institution of higher education. When that was granted, Warsaw – then a city with the population of a hundred thousand – obtained the University consisting of five faculties, with the student body of about 800 per year taught by some 40 to 50 professors.

The history of the University in the 19th century mirrors the history of Poland. When the uprisings against the occupants broke out, students would take part in them.

When the uprisings failed, the University would be closed. Due to the Russification of Poland, from 1869 until as late as 1915 all the teaching was conducted in Russian and the successive rectors were Russians.

1918

The Polish language returned to the University during the World War I. In 1918 Poland regained its independence, and the University – the full freedom of teaching. The University of Warsaw became the largest institution of higher education.

After the outbreak of the World War II the University was closed. Despite the huge war losses, it was reopened already in 1945.

1989

After the difficult period of the Communism, the University regained full autonomy in 1989.

THE FACULTY PAGE

The University of Warsaw has 19 faculties and 30 other teaching units. Apart from a broad spectrum of the humanities, including such specialist fields as for instance Mongolian Studies, students are offered exciting fields in the sciences, such as the newly opened Energy and Nuclear Chemistry.

Faculty of Mathematics, Informatics and Mechanics

Besides winning the ICPC contest twice (Beverly Hills 2003 and Tokio 2007), students of the Faculty can boast such achievements as the first-class prize in the International Mathematics Competition for University Students, twice won by Tomasz Kociumaka (2010 and 2011), and first prizes in the Vojtech Jarnik Mathematical Contest in Ostrava (2008) and the TopCoder Open Contest in Las Vegas (2008).

students: 1381* | teaching and research staff: 198

Faculty of Applied Linguistics

The Faculty educates translators of specialised texts. Students are taught Translation Studies, Translation for Specific Purposes and FLT, they are familiar with Russian legal vocabulary or medical terminology in Byelorussian.

students: 3550 | teaching and research staff: 178

Faculty of Biology

Comprises 6 institutes, over 20 departments and laboratories, geo-botanic field station and ecology field station, and the Botanic Garden with about 5,000 species and varieties of trees, shrubs and plants.

students: 841 | teaching and research staff: 182

Faculty of Geology

MSc course is available in one of eight specialties. Apart from theoretical courses, students participate in workshops. Science societies organise trips to Australia, the Kola Peninsula, the Near East and other locations.

students: 682 | teaching and research staff: 96

Faculty of Journalism and Political Science

One of the University's largest units. Every year over 1,000 students graduate from the Faculty. There are about 10,000 candidates during the registration process.

students: 6743 | teaching and research staff: 236

Faculty of Geography and Regional Studies

Climatology, geography of tourism and recreation, spatial organisation, the development of local policies or research on globalisation are only a few of the issues researched at the Faculty.

students: 1096 | teaching and research staff: 104

Faculty of Law and Administration

For many years law has been one the most popular fields of study. During the 2011/2012 registration process there were nearly 3,500 candidates for 400 places.

students: 6449 | teaching and research staff: 223

Faculty of History

With its 6 institutes, the Faculty has the largest staff of all the University faculties. The archaeologists' recent achievements include the discovery of grave chambers in Peru, almost 5,000 of rare coins from the 3rd century BC in Montenegro, and 1.5 tonnes of Sudanese relics fished out from the Nile.

students: 3067 | teaching and research staff: 275

Faculty of Management

It has the most students of all the faculties. Every year the Faculty is host to almost 50 guest lecturers from the USA, France, Belgium, Germany, Korea, Russia, Ukraine, Holland, Great Britain, Taiwan, China and other countries.

students: 7246 | teaching and research staff: 121

* Statistics in the article are for the year 2010

Faculty of Chemistry

Energy and Nuclear Chemistry is a new macro-field, initiated in cooperation with the Faculty of Physics; it encompasses, among others, nuclear chemistry and radiochemistry, radiological protection, application of nuclear technologies in medicine and industry, reactor physics and chemistry of radioactive waste.

students: **589** teaching and research staff: **137**

Faculty of Economic Sciences

According to the State Accreditation Committee, which controls the quality of teaching in all Polish institutions of higher education, the FES specialists are best teachers of economics in Poland.

students: **2215** teaching and research staff: **104**

Faculty of Philosophy and Sociology

The Institute of Sociology comprises 12 departments and 3 laboratories. It is one of the most important centres of sociological education and research in Poland. The Institute of Philosophy comprises 15 departments and 2 laboratories. It conducts, among others, courses in the philosophy of culture, religion, politics and aesthetics.

students: **1518** teaching and research staff: **148**

Faculty of Psychology

It has departments of Cognitive Psychology, Psychology of Learning and Memory, Personality Psychology, Social Psychology, Individual Differences Psychology, Clinical Psychology of the Child and Family, as well as chairs of Neuropsychology, Psychopathology and Psychotherapy. There is also the Centre for Research on Prejudice and the laboratories: of Diagnostic Techniques and of Environmental Research.

students: **1598** teaching and research staff: **82**

Faculty of Modern Languages

The Faculty comprises the English, Finnish, French, Spanish, German, Portuguese, Hungarian and Italian Studies, as well as the Spanish and Portuguese Culture Studies and the language and culture macro-field organised by the Institute of English Studies.

students: **3933** teaching and research staff: **238**

Faculty of Physics

Discoveries made by researchers from the Astronomic Observatory at the Faculty have gained worldwide recognition. The astronomers conduct their research mainly in the research base in Chile, considered to be one of the best observation points in the world.

students: **751** teaching and research staff: **198**

Faculty of Oriental Studies

The Faculty's teaching offer includes: African Studies with a course of Hausa, Hebrew Studies, Indology, Iranian Studies with a course of Persian or Pashto, Japanese Studies, Korean Studies, Hittite Studies, Sinology, Turkology, Mongolian Studies and Tibetan Studies.

students: **1024** teaching and research staff: **131**

Faculty of Polish Studies

One of the largest centres in Poland, developing research in Polish, Slavonic, Hellenic, Latin and Baltic Studies in the fields of literature, culture and language.

students: **3172** teaching and research staff: **202**

Faculty of Education

The Faculty has no less than 12 student and postgraduate science societies, involved in research on such diverse topics as social photography or human sexuality. There is also a society researching games and amusement, which is involved in the organisation of city games.

students: **1679** teaching and research staff: **79**

Faculty of Applied Social Sciences and Resocialisation

The Faculty prepares students to work with social problem diagnosis, and educates future criminologists, social workers, psychologists and sociologists.

students: **1801** teaching and research staff: **133**

THE UNIVERSITY IN FIGURES

48

the number of languages taught at the University of Warsaw. The courses include not only popular languages, like English or German, but also Arabic, Hindi or Pashto. It is also possible to learn sign language.

90

the age of one of the oldest student organisations active at the University of Warsaw: the Academic Choir. It currently has 19 altos, 21 bassos, 22 sopranos and 9 tenors. Apart from the choir, there are also the University radio station, the TV station, tourist clubs, theatres and the dance ensemble.

116

the number of the University buildings in Warsaw itself. Located in various parts of the city, they have the total area of 357 530,4 m^2. The University conducts research in other parts of the country as well, for instance the Faculty of Biology has its geo-botanic station in Białowieża. The Białowieża Forest is the last well-preserved forested area in the North European Plain.

LANGUAGES AT THE UNIVERSITY

Albanian, Arabic, Armenian, Azerbaijani, Basque, Bengali, Bulgarian, Byelorussian, Catalan, Chechen, Chinese, Croatian, Czech, Danish, Dutch, English, French, Galician, Georgian, German, Greek, Hebrew, Hindi, Hungarian, Italian, Japanese, Kazakh, Korean, Latvian, Lithuanian, Mongolian, Norwegian, Pashto, Persian, Polish as a Foreign Language, Polish Sign Language, Portugal, Romanian, Russian, Serbian, Slovakian, Slovenian, Spanish, Swahili, Swedish, Turkish, Ukrainian, Uzbek, Vietnamese

>350

the number of research and art societies active at the University, including for instance those of Radiobiology, Artificial Intelligence, Music in 20th-century Totalitarian Systems or Experimental Philosophy.

859

the number of seats in the University's largest lecture hall: the Adam Mickiewicz Aula at the Auditorium Maximum. It is the venue of the most important university celebrations.

1,600

the number of foreign institutions that cooperate with the University. Nearly 235 of those are foreign partners from more than 50 countries, with whom the University has signed partnership agreements regarding direct cooperation.

3,300

the number of academic teachers currently employed at the University, including 850 professors.

3,500

the number of readers visiting the University Library each day. The collections of the University Library and faculty libraries house over 5,5 million volumes. The Library not only makes its huge collection available to readers, but is also a venue for exhibitions, meetings and conferences.

A FUTURE STUDENT

Enrollment questionnaires indicate that candidates decide to enter the University of Warsaw mainly because of the **high level of teaching**, its **position in the national and international ranking lists**, and the ample **job opportunities** open to its graduates.

The most popular faculties turned out to be the following:

- Inter-Faculty Economics and Management Studies – 32 candidates per place,
- Journalism and Social Communication (specialty: public relations and media marketing) – 24 candidates per place,
- Chinese Studies – 19 candidates per place,
- Japanese Studies – 17 candidates per place,
- English Studies – 16 candidates per place.

At the close of the **2011/2012** enrollment process over **18,500** students began the course of study at the University of Warsaw

INTERNATIONAL OUTLOOK

The number of foreigners at the University of Warsaw is growing from year to year. Currently the University has about 1,400 foreign students who make up about 2,7% of the student body. The percentage of foreign students at other universities in Poland is 1% on the average. The University cooperates with about 1600 institutions abroad. The most dynamically developing are contacts with universities in Asian countries. The number of foreign professors teaching at our university is also growing. Many courses of study are conducted in a foreign language.

International student exchange – The Erasmus Programme

The University of Warsaw is among the institutions that hear the ranking lists regarding participants of the Erasmus student exchange programmes. In 2010, the University held the 6th place among all institutions participating in the programme, and was among the 20 finalists of the Erasmus Success Story contest. Three years earlier, the European Commission commended the University of Warsaw for its participation in the Socrates-Erasmus Programme.

Students going on exchange abroad:

2011 – about 1,300

Foreign exchange students:

2011 – about 800

Foreigners studying at the University of Warsaw

2011 – about 1,400

Foreigners studying at the University of Warsaw mostly come from:

- Byelorussia
- Ukraina
- Russia

Foreign students from part-time studies are mainly:

- Spanish
- Germans
- Italians

The most popular faculties among foreign students:

- International Relations
- European Studies
- Economics

STUDIES CONDUCTED IN THE ENGLISH LANGUAGE:

BA/BSc courses: Archaeology, Philosophy, International Relations, American Studies

MA/MSc courses: Archaeology, Chemistry, Economics, International Economics, Philosophy, Finance and Accounting, Environmental Management Macro-field, Political Science, International Relations, American Studies, Management

Single-degree MA course: Psychology

Ph.D. studies: PhD Programme "Mathematical Methods in Natural Sciences", International PhD Studies in Chemistry, International PhD studies in Nano and Bio Science at the Faculty of Physics, International PhD studies in Fundamental Problems of Quantum Gravity and Quantum Field Theory, International PhD Program: The Traditions of Mediterranean Humanism and the Challenges of Our Times: the Frontiers of Humanity, Towards Advanced Functional Materials and Novel Devices

MBA studies: Executive MBA, Global MBA, International MBA Programme

STUDIES CONDUCTED IN THE RUSSIAN LANGUAGE:

MA courses: Political Science

International research cooperation

The University of Warsaw cooperates with numerous science and research centres from all over the world. The University's research staff cooperates with foreign scholars in the fields of sciences, natural sciences and the humanities, often participating in international research projects the results of which are noted as fundamental discoveries.

A recent discovery, made by a three-member team of Grzegorz Niedźwiedzki, the Faculty of Biology Ph.D. student, Stephen Brusatte of the American Museum of Natural History in New York and a British palaeontologist Richard Butler, has gained widespread recognition. The scholars demonstrated that the Mesosoic, the era of the dinosaurs, began much earlier than assumed. The basis for their hypothesis was provided by the traces of a dinosauromorph discovered in the Holy Cross Mountains in south-eastern Poland.

Modern astronomy has been revolutionised by the team of scientists headed by prof. Andrzej Udalski from the University's Astronomical Observatory, who conduct the OGLE project (The Optical Gravitational Lensing Experiment). It consists - in detailed analysis - of sections of the sky with the aid of modern cameras designed and constructed by prof. Udalski. Lately, the Warsaw OGLE research team in cooperation with the New Zealand and Japanese MAO research group discovered a new category of planets, the so-called extra-stellar planetary bodies.

Scholars from the University of Warsaw are laureates of numerous national and foreign awards. The University of Warsaw obtains research grants has been noted by the European Commission. According to the "Innovation – Union – Competitiveness" report, subsidies assigned to the University of Warsaw constitute about 5% of all grants for Poland. Their sum (13,72 million euro) amounts to nearly 7% of the total grants to Polish science.

WE ARE EXPANDING

DOBRA (55) CONSTRUCTION PROJECT

Faculties of Modern Languages and Applied Linguistics

Six-level with state-of-the-art language and computer laboratories, conference rooms, car parks and a video room for students; five courtyards with Germanic, Slavonic, French, Mediterranean and English thematic gardens and a roof garden open to visitors; modern design with colourful glass and metal décor, beautifully matching the neighbouring University Library building – such will be the appearance of the new seat of the languages and linguistics faculties at Dobra 55, the future quarters to about 12,000 staff and students.

THE MODERN OCHOTA

Faculties of Physics, Biology and Chemistry

The University has three ongoing construction project at the Ochota district. The first of those is the New Technologies Centre, where scientists will be concerned mostly with implementing modern technologies in medicine, monitoring and environmental protection, e-economy and e-administration, the judiciary or criminology.

The second is the Centre of Biological and Chemical Sciences – the future locus of research on threat monitoring and prognosis, environmental pollution, new energy sources as well as technologies and biologically active substances used in medicine and cosmetology.

The third building will house the Faculty of Physics. Education and research programmes in physics and related sciences will be conducted there. It will be an attractive place of work for outstanding scientists and a research centre of European magnitude.

A MIRACULOUS TRANSFORMATION

Faculty of Journalism and Political Sciences

The Auditorium Building, the new seat of the Faculty of Journalism and Political Sciences, will be the jewel of the University. After a long time it will regain its original neo-Classical form. It will house the faculty library with a reading room, lecture rooms, conference and seminar rooms, offices of the dean and assistant deans, the faculty publishing house with a sales point, and the archive. The focus of the building will be the 150-seat auditorium, a place for the faculty celebrations.

A CENTRE IN THE MOUNTAINS

The European Centre for Geological Education in Chęciny

Centres of the UW are also built away from the capital. A multi-functional science base will be built in a nature reserve in the Świętokrzyskie Mountains. It will be used by students of Polish and foreign faculties of geology and other natural sciences. The Centre will be the place for fieldwork and teaching, e.g. for the courses in basic and historical geology, geological cartography, micropalaeontology or hydrology. There will be a lapidary with local rocks and a glasshouse for fossils.

MUSEUM OF THE CELTS

"Archeoceltica" – The European Centre for Archaeological Education

The European Centre for Archaeological Education will be constructed in southern Poland, in the same region as the Centre for Geological Education. The Centre, located on the grounds of the historical palace in Chroberz, will be the focus of field practice and museum practice for the students of Archaeology.

Researchers from the Institute of Archaeology of the UW have been conducting excavations in the Świętokrzyskie voivodship for many years. In the neighbouring commune, they discovered the traces of one of the largest Celtic settlements in southern Poland. The Centre will present and highlight their research results. "Archeoceltica" will also be a cultural centre for the local residents and tourists.

the contest floor

– To win in this contest, the team members must be good computer scientists and mathematicians but this is not enough. Above all, they should get on well with each other. It has to be remembered that participation in the contest is a great physical and psychological effort, too. The contestants have to be in top form for five hours – says prof. Jan Madey – the Director of the 2012 ACM ICPC World Finals.

In this section you will find:

- an interview with the Rector of the University of Warsaw;
- information about the ACM-ICPC;
- an interview with the winner of the ICPC 2003 World Finals;
- information on the organisation of the contest and the accompanying events;
- useful maps and a glossary.

WELCOME TO WARSAW!

Welcome to the 36th Annual ACM International Collegiate Programming Contest World Finals sponsored by IBM and hosted by the University of Warsaw. We have partnered with the UPE Honor Society and ACM to provide you with the finest possible setting here in Warsaw, Poland.

The ACM-ICPC World Finals culminates the efforts of faculty and students from 2,219 universities in 85 countries that placed 25,016 students in teams of three at over 300 regional sites worldwide. The top 112 teams have advanced to the World Finals. Congratulations to the 2012 World Finalists and all who have made this possible!

You have earned the right to compete for further recognition for a simple reason. You bested 24,680 of your peers from six continents who challenged you to do your best. So here you are, champions all, with the opportunity to earn medals – bronze, silver, and gold – while vying to make the "2012 World Champions" prove their worth beyond measure.

There are so many stars visible in the ICPC Community. UPE has served for 42 years, ACM has served for 36 years, and Baylor University has served for 29 years. Over the 15 years of IBM sponsorship, the ICPC has expanded participation by over 1000%!

Consider the crews of KATTIS and ICPC Live, led by Fredrik Niemelä and Mats Erixson of KTH. These DeBlasi Award recipients have brought outstanding contest control that supports live play-by-play video coverage to World Finals spectators worldwide.

Consider the Measures Award recipients, Bozena (Boba) Mannova of Czech Technical University in Prague and Jan Madey of the University of Warsaw. Boba and Jan have spent lifetimes opening doors of opportunity and encouraging gifted problem solvers. Their efforts have transformed and enriched their communities – at home, in Europe, and across the globe.

Here we are in Warsaw, in May, in the heart of Poland, in the midst of springtime's bloom. Here we are in the land that gave birth to Chopin and Copernicus, where Music lifts the Spirit and Science enlightens the Mind. Let us draw from these strengths and their purpose as we celebrate the opportunities before us.

Led by Jan Madey, Krzysztof Diks, and Rafał Sikorski, the University of Warsaw volunteers have made ready an extraordinary experience for all. Let's join them as we look forward to the 2012 World Finals whose medals are forged in the crucible of judges' problems and the energy of the finest 112 teams ever!

Best Wishes!

William B. Poucher

William B. Poucher, Ph.D., ACM Fellow
ICPC Executive Director

Professor Katarzyna Chałasińska-Macukow is a physicist specialising in photonics and information optics. She has lectured at the universities in France, Canada (Quebec) and Spain. Since 2005 she has been the Rector of the University of Warsaw, and since 2008 also the chairperson of the key organisation of academic rectors, the Conference of Rectors of Academic Schools in Poland (CRASP). She is a member of many scientific associations, including the Polish Physical Society. Since 2010 she has been a member of the Board of Directors of the International Society of Optics and Photonics (SPIE), San Diego.

AN INTELLECTUAL SPORT

Prof. Katarzyna Chałasińska-Macukow, the Rector of the University of Warsaw, presents her views on the circumstances in which the UW became the ACM-ICPC organiser, the reasons why some people find the programming contest more interesting than the Euro 2012 football championships, and on Polish hospitality.

This year, for the first time ever, the World Finals of the International Collegiate Programming Contest will take place in Poland, hosted by the University of Warsaw. What does this mean to our University?

Katarzyna Chałasińska-Macukow: Institutions of higher education from many countries compete for the opportunity to organise the finals. Their attempts are backed by city authorities and even by the presidents of their countries. The University of Warsaw is supported by the President of Poland Bronisław Komorowski and the President of Warsaw Hanna Gronkiewicz-Waltz. The fact that this year's contest will take place at our University is owed above all to prof. Jan Madey and prof. Krzysztof Diks, who for many years have looked after our programmers, and to the students themselves. Without the success of the University's young programmers in the previous years, especially their victories in the ACM-ICPC in Beverly Hills in 2003 and in Tokyo in 2007, we could only dream of such honour.

In June Poland will also host the finals of the UEFA Euro 2012 football championships. New highways, hotels and stadiums are being built for the event. The collegiate programming contest is somewhat smaller in scale and has less momentum, but its winners must display a much greater talent than the footballers: they have to use their heads! That is why I am looking forward to the

prof. Katarzyna Chałasińska-Macukow, Rektor of the UW

programming contest more than the championships in June.

I hope this will be a good opportunity for promoting the University and its students.

This is also the event in which we may count on success with more certainty. The University's programmers have more reasons to be proud of themselves than the Polish football team.

K.Ch-M.: This is true, the University of Warsaw programming team has reached the ACM-ICPC finals every single year since 1994. Our programmers manage very well also in other contests, for instance the TopCoder or the Facebook Hacker Cup.

Among the Silicon Valley researchers there are some graduates of our University. Maybe thanks to them a similar centre will be created in the Vistula Valley?

Do you think the University of Warsaw team will manage to repeat their previous success in the ACM-ICPC finals?

K.Ch-M.: The fact of qualifying for the finals is a great achievement in itself. I just hope that the contest will be a satisfying experience to all members of all teams; that they will not only withstand the trial by fire but also strike long-lasting friendships.

And what are your own plans for the period of the contest?

K.Ch-M.: I want to spend as much time as possible with the contestants.

I will keep my fingers crossed for all the teams. I hope they will be leaving Warsaw and Poland with only good memories. Polish hospitality has won widespread fame, so this should not be too difficult.

INTERNATIONAL COLLEGIATE PROGRAMMING CONTEST

- one of the oldest and the most prestigious contests, in which the competitors are **computing science students** from all over the world;
- the contest took place for the first time in **1977**;
- the contest is co-organised by the **Association for Computing Machinery**, an international association of experts in computing and information technologies; in existence since 1947, it has about 80,000 members, both scientists and practitioners of computing;
- the ACM ICPC is a **two-round contest**: it has the regional eliminations, which take part in various places of the world, and the World Finals;
- the highest-scoring team wins the title of **World Champions in Collegiate Programming**; additionally, four gold, four silver and four bronze medals are awarded;
- since 1997 the ACM-ICPC is sponsored by **IBM**; since then, the number of contestants has increased more than ten times;
- **25,016** contestants from **2219** institutions of higher education from **85** countries took part in the **2011 World Finals;**
- the 2011 World Champions are the team from Zhejiang University in China;
- the champions of the first contest were the Michigan State University team;
- for the first time, a Polish team participated in the ACM-ICPC in 1994, after the University of Warsaw team had won the European regional contest in Amsterdam. The University of Warsaw has qualified for the Finals every year since then; only one more institution in the world, the University of Waterloo in Canada, can boast this achievement;
- the University of Warsaw team has won the title of World Champions twice: in 2003 and in 2007.

THE GREATER AND LESSER SUCCESSES

– on the achievements of the University of Warsaw programmers

The Polish team, programmers from the Faculty of Mathematics, Informatics and Mechanics, won the ACM-ICPC for the first time in 2003; the contest was held in Beverly Hills.

Tomasz Czajka and Krzysztof Onak were students of the combined informatics/mathematics course, while Andrzej Gąsienica-Samek was studying informatics.

Their team beat the nearly 4,000 teams representing 1329 universities from 68 countries.

The second great success came in 2007. The winners of the 31st Contest in Tokyo were Marek Cygan, Marcin Pilipczuk and Filip Wolski from the University of Warsaw team.

That year, over 6,000 teams from 1758 universities worldwide participated in the regional contest. 88 teams qualified for the finals.

The University of Warsaw programmers won the contest, solving 8 of 10 problems posed.

The second place was taken by the team of the Tsinghua University from China (7 problems), and the third by St. Petersburg University team (6 problems).

THE ACHIEVEMENTS OF THE UNIVERSITY OF WARSAW TEAMS:

- **2012** Warsaw - ?
- **2011** Orlando – 15th place
- **2010** Harbin – 8th place silver medal
- **2009** Stockholm – 9th place bronze medal
- **2008** Banff – 14th place
- **2007** **Tokyo – 1st place, gold medal**
- **2006** San Antonio – 7th place silver medal
- **2005** Shanghai – 17th place
- **2004** Prague – 10th place bronze medal
- **2003** **Beverly Hills – 1st place gold medal**
- **2002** Honolulu – 11th place
- **2001** Vancouver – 6th place
- **2000** Orlando – a place in the 3rd ten
- **1999** Eindhoven – 11th place
- **1998** Atlanta – 9th place
- **1997** San Jose – 11th place
- **1996** Philadelphia – 17th place
- **1995** Nashville – 9th place

TO BE BETTER BY A LENGTH

In 2003 Andrzej Gąsienica-Samek was a winner of the ACM-ICPC Finals in Beverly Hills. Now he has his own programming company and employs 30 staff members. He shares his experience during the ICPC.

Taking part in such contest must be a big thing. What is the atmosphere like?

Andrzej Gąsienica-Samek: It is not a direct competition, as for instance in volleyball, where one team has to beat the other. This is more like fighting against your own self, with time and with the tasks that were posed.

Do you fight for the computer?

A.G-S.: In reality, we spent two-thirds of the time over a sheet of paper. Theoretically, there is that strategy that one person should be writing, and the other checking, but we didn't find it useful. Each team member should have one-third of the time at the computer.

Did you have some division of duties in the team?

A.G-S.: In our team it was rather symmetrical, although when it came to solving the problems, each of us had his own specialism. This was important in dividing the tasks.

What kind of tasks do you like?

A.G-S.: Mainly those which involve coding.

What personality features are necessary to win this contest?

A.G-S.: Like with every achievement, you have to have the desire to win. If the team's programmers have no will to win, it will be a fiasco even though they are excellent.

Did you assume from the very beginning that you were going to Beverly Hills to win?

A.G-S.: Sure! The University was very high in the classification from the very start, and there were winners of programming contests in our team. This set the expectations sky-high.

Various unforeseen situations may occur during the contest. Once a test rejected correct solutions and accepted erroneous ones. What then?

A.G-S.: This may happen, but I always say that you don't debate rules. If the team is very good, the members should assume that the error belongs to the other side and get down to the next task.

It's like with ski jumping when a jumper gets a sudden gust of wind. But the rules are the same for all. The best jumpers are high in the general classification anyway. You have to be better by the length of an arm, not by a bit of an elbow.

APART FROM THE ACM-ICPC

Every year students of the Faculty of Mathematics, Informatics and Mechanics participate not only in the ACM-ICPC, but also in other international contests. Recently two of them have reached the finals of the prestigious Facebook Hacker Cup.

FACEBOOK HACKER CUP

Six Poles have reached the finals of the 2nd FHC (2012). The University of Warsaw was represented by two students Tomasz Kulczyński and Jakub Pachocki, a graduate Tomasz Czajka (the winner of ACM-ICPC in 2003), a postgraduate Jakub Radoszewski and a lecturer Paweł Parys. In the finals competed 25 best programmers among more than 7500 contestants from all over the world.

TOPCODER

The contest is above all algorithmic, with the emphasis on the speed and quality of coding. Initially, it was fought once a week, mainly over the Internet. Currently TopCoder Open is a large international contest. The constant ranking by player, educational institution and country is parallel to it. For over four years, since 2005, the UW was the leader in the ranking of educational institutions; currently it holds the second position.

Individual achievements:

- **2011 and 2008** – **1st place** – Przemysław Dębiak (category: Marathon)
- **2008** – **1st place** – Tomasz Czajka, (category: Algorithms)
- **2005** – **1st place** – Eryk Kopczyński (category: Algorithms)
- **2004 and 2003** – **1st place** – Tomasz Czajka (category: Algorithms)

IMAGINE CUP

Organised by Microsoft, the contest has several categories, including algorithms, software design and game design.

- **2007** – **1st place** – Przemysław Dębiak
- **2004** – **1st place** – Piotr Mikulski

GOOGLE CODE JAM

One hundred contestants selected in the regional eliminations compete in the finals, which take place in the Google's head office in Mountain View. To solve a series of programming problems, the contestants may use any tools and programming languages.

- **2006** – **1st place** (European round) – Tomasz Czajka
- **2005** – **1st place** – Marek Cygan

THE WAY TO WORLD FINALS

POLISH COLLEGIATE PROGRAMMING CONTEST (AMPPZ)

- one of the most important contests in Poland, in which the contestants are **computing science students**;
- the Polish counterpart to the ACM-ICPC (The ACM International Collegiate Programming Contest);
- Poznań University of Technology was the organiser of the first contest, which took place in **1996**;
- the contest takes **2 days**;
- there are **dozens of teams** representing the best computer science schools in Poland; each team consists of **3 members**;
- **from 8 to 12 problems** to solve;
- the University of Warsaw teams have taken the **first place** in all AMPPZ finals to date, several times taking the successive two places as well;
- the University of Warsaw **hosted the AMPPZ** contest in 2011 and will continue to do so until 2013. The contest is organised by the Faculty of Mathematics, Informatics and Mechanics in cooperation with the Faculty of Management;
- the previous organisers were Poznań University of Technology, Wrocław University of Technology, Jagiellonian University, University of Wrocław and Adam Mickiewicz University.

CENTRAL EUROPEAN REGIONAL CONTEST (CERC)

- the regional event that advances Central-European teams to the ACM-ICPC World Finals;
- 64 teams represented the best institutions of higher education from Croatia, the Czech Republic, Poland, Slovakia, Austria, Slovenia and Hungary at the most recent contest, which took place in November 2011 in Prague;
- the winners of the round were students of the University of Warsaw Faculty of Mathematics, Informatics and Mechanics. The second and third places were also taken by Poles: teams from the Jagiellonian University.

The sponsor of the ACM International Collegiate Programming Contest is IBM. The Ministry of Economy as well as the City of Warsaw (the host city) have provided their support in organizing the 2012 ACM-ICPC World Finals. The Host Local Strategic Partner and the sponsor of the University of Warsaw team is PKO Bank Polski.

NOT ONLY THE CONTEST

May, 14th 2012

- Arrivals and team registration

May, 15th 2012

- Opening Ceremony

May, 16th 2012

- Dress rehearsal

May, 17th 2012

- ICPC Live – have fun and watch the World Finals
- ACM-ICPC World Finals 2012 Contest
- Awards Ceremony

May, 18th 2012

- Departures

Apart from great excitement, the World Finals of the ACM-ICPC International Collegiate Programming Contest will be accompanied by various memorable events and highlights, interesting not only to the fans of collegiate programming, but also to the members of the University's academic community and the residents of Warsaw.

Among the key events to accompany the contest will be the ACM-ICPC World Finals 2012 opening and closing ceremonies. The welcoming ceremony for the contestants, their supervisors, members of the Honorary Committee and everyone involved in the contest will take place on 15th May in the Congress Hall of the Palace of Culture and Science in Warsaw.

Apart from the official greeting, the evening will include an artistic programme with a multimedia display staged in the entire space of the Congress Hall. Its interior will be transformed into a magical space awash with neon lights, with dewdrops on the ceiling. The closing ceremony, which will take place on 17th May in the University of Warsaw Library, will be similarly atmospheric, and accompanied by a performance by the University of Warsaw "Warszawianka" Song and Dance Ensemble.

Educational Informatics Picnic will take place in the University of Warsaw Library roof garden during the finals. The event will include popular science lectures, and the progress of the ACM-ICPC World Finals will be shown on video walls.

HOT SPOT POINTS

Over 60 WiFi points are available on the main University campus. A unified broadband network is in operation in the three buildings of the Faculty of Management. During the contest, both campuses will be provided with a dedicated broadband network with a password shared by all the contestants.

The main contest will take place in the Faculty of Management building in the Służew district and the closing ceremony will take place in the University of Warsaw Library.

Network: ACM-ICPC2012

Password: ICPC2012

Fast transmission with 100Mb/s and 1Gb/s speeds, aggregated on backbone network 10Gb/s.

KEY:

[1] The Kazimierzowski Palace

Originally a suburban residence of the king of Poland, today it is the headquarters of the University authorities and central offices.

[2] The Former School Superintendent Building

[3] The Mineralogical Pavilion

[4] Auditorium Maximum

The building houses the University's largest auditorium hall, seating nearly 900 students. It is the location of the most important University celebrations.

[5] The Old Library Building

The building dates back to 1894. Initially the collection encompassed 450,000 volumes; currently it is over 3 million. In 1999 the library moved its archives to the new building in the Powiśle district, and the renovated Old Library houses lecture rooms and conference halls.

[6] The Main School

[7] The Former Museum Building

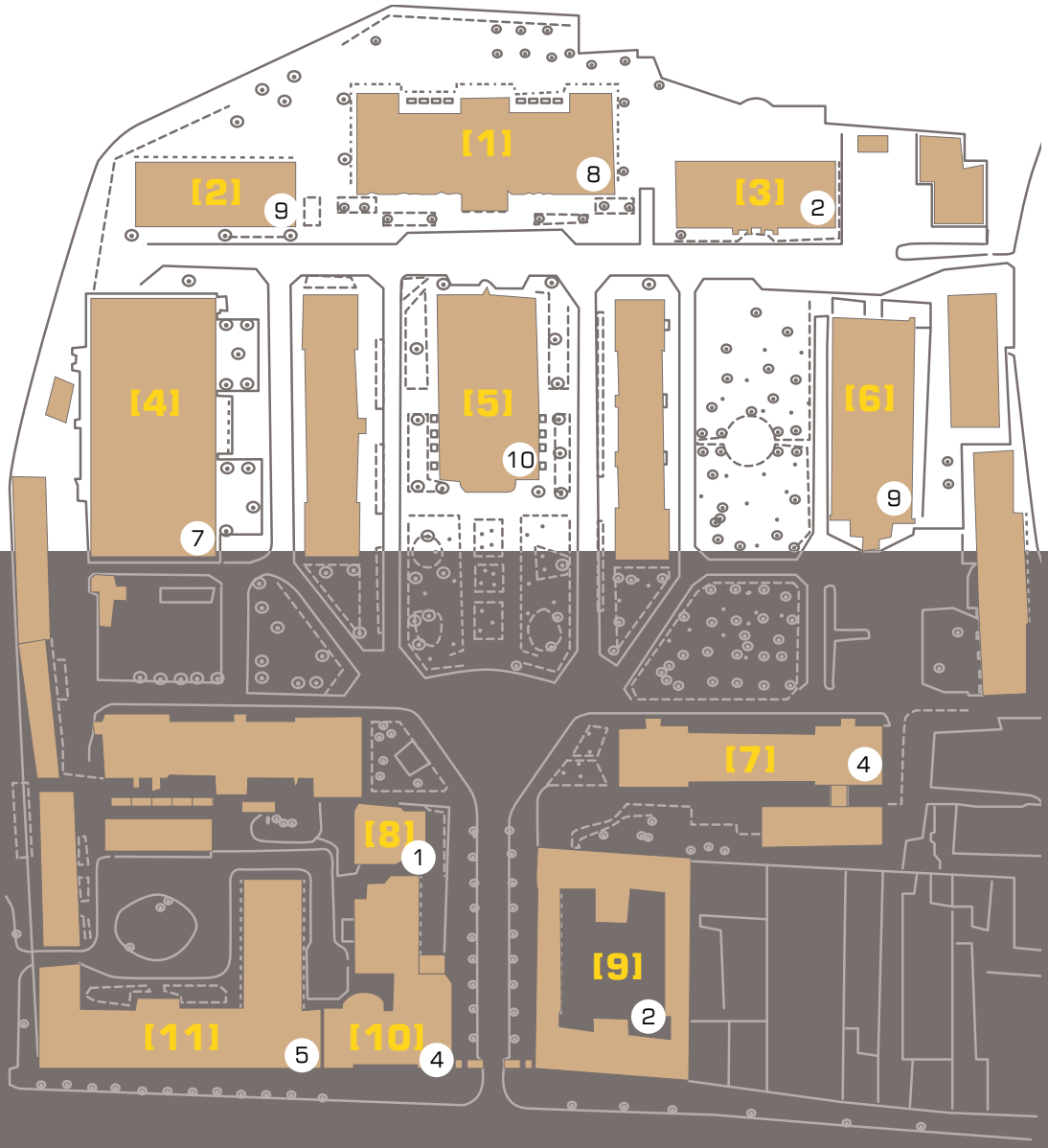
[8] The Centre for Foreign Language Teaching

[9] St. Roch Hospital

[10] The Czetwertyński-Uruski Palace

[11] The Tyszkiewicz-Potocki Palace

THE MAIN CAMPUS



* number of hot spots

THE CALENDAR OF EVENTS

The first ACM-ICPC contest took place nearly forty years ago. This is the eighteenth time that the Polish team will have participated in the contest. Much has changed over that period.

At the beginning, the permitted programming languages were C, C++ and Pascal, later joined by Java (which finally ousted Pascal). In some years the jury allowed the contestants to use an unlimited amount of aid materials.
– Some teams brought in heaps of books then instead of working out the solution, the contestants were leafing through books looking for similar problems.

– reminisces prof. Jan Madey, the supervisor of the University of Warsaw team.

Unexpected situations occurred, like the bomb scare during the award-giving ceremony in San Jose in 1997 or the hardware malfunction during the most recent CERC, when the contest lasted for seven hours instead of five. The finals in Orlando in 2000 were very dramatic, too. One problem, which had seemed easy, proved a problem for all the teams. – The University of Warsaw team sent in its answer as the first one but it was not accepted. After half an hour a team that was considered weak sent in their answer and it was accepted – says prof. Madey. – The best guy in our team spent five hours doing nothing else but trying to solve that problem. The contest came to an end, the awards were given. We got a place in the third ten - says Professor. And then it turned out there had been a software error: correct answers were rejected and erroneous ones were accepted.

There were also very pleasant moments. To Professor Madey, one of the more memorable events had to do with a microchip printed with fractal patterns. The point was to enable the current to flow from one point to the other along the shortest possible route. – This was the task we solved in Beverly Hills in 2003, getting the first place. Only three teams solved it correctly. The author of this task, who was a member of the jury, had worked for two years to design it.

"Of all the competing teams **only our team** solved it exactly the way he had envisaged **When the solution came** **the man was literally jumping** up and down **with joy**" – says Professor

BASIC POLISH some useful words and phrases

DAILY USE

good morning/ good afternoon – dzień dobry

hi/ hello – cześć

good evening – dobry wieczór

goodnight – dobranoc

see you tomorrow – do jutra

goodbye – do widzenia

please – proszę

thank you – dziękuję

thanks – dzięki

I'm sorry – przepraszam

excuse me – przepraszam

yes – tak

no – nie

SMALL TALK

What is your name? – Jak masz na imię?

It's nice to meet you. – Miło Cię poznać.

How are you? – Jak się masz?

I'm fine. – W porządku.

I'm sorry, I don't speak Polish. – Przepraszam, nie mówię po polsku.

Do you speak English? – Czy mówisz po angielsku?

What time is it? – Która godzina?

How do I get to...? – Jak dojść do...?

MINI-DICTIONARY FOR ICPC DAYS

ACM International Collegiate Programming Contest – Akademickie Mistrzostwa Świata w Programowaniu Zespołowym

University of Warsaw – Uniwersytet Warszawski

Main campus – Kampus główny

University of Warsaw Library – Biblioteka Uniwersytecka w Warszawie

Faculty of Management – Wydział Zarządzania

programming – programowanie

computer – komputer

team – zespół

competition – zawody

participant – uczestnik

task – zadanie

solve – rozwiązać

Good luck! – Powodzenia!

Cross your fingers! – Trzymaj kciuki!

winner – zwycięzca

KEY NUMBERS

1. **one/ first (task solved)** jeden/ pierwsze (zadanie rozwiązane)
2. dwa/ drugie
3. trzy/ trzecie
4. cztery/ czwarte
5. pięć/ piąte
6. sześć/ szóste
7. siedem/ siódme
8. **osiem/ ósme**
9. dziewięć/ dziewiąte
10. dziesięć/ dziesiąte
11. jedenaście/ jedenaste
12. **dwanaście/ dwunaste**

Warsaw offers its visitors not only beautiful historic residences, like the ones in Wilanów or in the Łazienki Park, but also modern museums packed with multimedia displays. You can satisfy your scientific curiosity at the Copernicus Science Centre, experience history in an extraordinary way at the Warsaw Rising Museum, or visit the Chopin Museum, which holds the largest collection of Chopin memorabilia in the world.

In this section you will find:

- ideas for spending leisure time in the capital;
- useful hints and interesting data;
- a map with the must-see places.

MUST KNOW ABOUT WARSAW

Warsaw was most probably founded in the 13th century. In the 14th century records it was referred to as Warseuiensis, later Varschewia and Warschouia. The town was destroyed and rebuilt several times. Looted during the Swedish war – "the Deluge", ravaged in the aftermath of the national uprisings, burnt and bombarded in the course of two world wars, today it is one of the most modern cities in Poland.

The Palace of Culture and Science is the tallest building not only in Warsaw but also in Poland. It is 230m heigh, including the 43-metre spire, from which the signal of seven television stations and 24 radio stations is broadcast. It was constructed in the 1950s. Its 42 floors house many businesses, theatres, a cinema, a bookshop, sport clubs and scientific institutions.

The Vistula is the longest river in Poland. It springs from the Carpathian Mountains, and its delta empties into the Baltic Sea at the Bay of Gdańsk. The river is 1047 km long and it crosses the entire country. Its Warsaw stretch lies between its 498th and 526th kilometre and measures 28 km.

THE CITY IN NUMBERS:

519
the area of 519 km^2

21%
of the city's area is taken up by green spaces. Some of the capital's most beautiful parks: the Saski Park, the Ujazdowski Park, the Łazienki Park and the University Botanic Gardens are located in the vicinity of the city centre.

1,700 000
the population of 1,7 million

3,000 000
the population of Warsaw agglomeration: 3 million

270,000
students

192
libraries

24
cinemas

111
museums and art galleries

>1300
over 1300 historical monuments

Warsaw has about **6,000** named streets, avenues, squares and roundabouts. The longest is Wał Miedzeszyński, which stretches for

14 km along the Vistula River, intersecting with over **40** other streets

The elegant Nowy Świat, a section of the Royal Route, is one of the most famous and prestigious – and also the most expensive – streets in the city centre. Parallel to it runs Marszałkowska, one of the best known streets, which is slightly longer than

3,5 km long

Both of them are intersected by Aleje Jerozolimskie avenue, which is nearly

12 km long and runs through five of Warsaw's eighteen districts

MUST SEE IN WARSAW

OLD TOWN

– according to a poll on the www.tripadvisor.com website, the Old Town is the loveliest place in Warsaw. Full of charming tenement houses, it is the location of the Royal Castle, the Barbican and several Gothic and Renaissance churches. Razed to the ground during the World War II, the historic Old Town was meticulously reconstructed and is now on the UNESCO's list of World Heritage Sites.

WILANÓW PALACE MUSEUM

– the Baroque royal palace in Wilanów, with a park and extensive grounds, was constructed in the late 17th century for King Jan III Sobieski and Queen Marie Casimire, and extended by the consecutive owners. The palace represents a unique combination of European architecture with the ancient native tradition. One of the first public museums in Poland was opened in a part of the palace by the then owner, Count Stanisław Kostka Potocki, in 1805. The palace is set in a two-level royal garden.

ROYAL ŁAZIENKI MUSEUM

– a picturesque park with several monuments of architecture and sculpture. Its beginnings reach back to the 17th century. Later the palace was the summer residence of King Stanisław August Poniatowski, who gave the park its unique character. The king's ideas were carried out by the outstanding architects: Dominik Merlini, Jan Chrystian Kamsetzer and Jakub Kubicki, painters: Jan Bogumił Plersch and Marcello Bacciarelli, and sculptors: Andrzej Le Brun, Jakub Monaldi and Franciszek Pinck. The visitors can admire the Palace on the Water, the Myślewicki Palace, the Old Orangery, the Amphitheatre and the Cadet Barracks. The Łazienki Park stretches along the historic Aleje Ujazdowskie avenue, and the nearby University Botanic Gardens are also open to the public.

KRAKOWSKIE PRZEDMIEŚCIE

– recognised as one of the most prestigious streets of Warsaw, it is the location of the main University campus. Characteristic architectural features: the University's main gate and many historic town houses give this street its unique charm.

UNIVERSITY OF WARSAW LIBRARY ROOF GARDEN

– one of the largest and the most beautiful roof gardens in Europe, it is the favourite place of recreation not only for the students and staff of the University, but also for all the residents and the visitors to the capital. The gardens are linked with footbridges, pathways and pergolas. From the park's bridges and the viewing terrace stretches a wonderful panorama of Warsaw up to the Vistula River and the Świętokrzyski Bridge. The visitors may peep down into the library through special skylights and the glass roof.

MUST FIND IN WARSAW

1. University of Warsaw
2. Palace of Culture and Science
3. Old Town
4. Royal Łazienki Museum in Warsaw
5. Wilanów Palace Museum
6. University of Warsaw Library roof garden
7. Copernicus Science Centre
8. Warsaw Rising Museum
9. Chopin Museum

TURIST INFORMATION

Wilanów Palace Museum
Muzeum Pałac w Wilanowie
Stanisława Kostki Potockiego 10/16
www.wilanow-palac.pl/rezydencja

Royal Łazienki Museum
Muzeum Łazienki Królewskie
Agrykola 1
http://www.lazienki-krolewskie.pl/en

Copernicus Science Centre
Centrum Nauki Kopernik
Wybrzeże Kościuszkowskie 20
www.kopernik.org.pl/en/

Warsaw Rising Museum
Muzeum Powstania Warszawskiego
Grzybowska79
www.1944.pl/en/
Notes: audiobooks available in 18 languages

Chopin Museum
Muzeum Chopina
Ostrogski Palace
Okólnik 1
www.chopin.museum/en/
Notes: The best way to reserve tickets is over the Internet because the museum can be only 70 people in the same time

Prices: Tickets to all museums cost around 5 EUR (about 20 PLN)

WARSAW TURIST INFORMATION OFFICES:

Old Town Market Square
Rynek Starego Miasta 19/20/21a

Palace of Culture and Science
Plac Defilad 1

Kordegarda
Krakowskie Przedmieście 15/17

www.warsawtour.pl

THE MUSEUM LESSON

Warsaw has over a hundred museums and art galleries. During your stay in the capital, it is worthwhile to visit at least a few.

LEARNING THROUGH PLAY
The Copernicus Science Centre

The museum was opened in November 2010 and during the first year of its existence was visited by over a million guests. Currently the Museum hosts about 4,000 visitors per day. Why is it so popular? On the area of nearly 5,000 m^2 there are 450 exhibits. Among them is the Foucault's pendulum, which is the heaviest one in Europe and the fourth heaviest in the world. The steel ball hanging on a 15-metre rope weighs 242 kg. The Centre has also the world's first Robotic Theatre, in which four robothespians, each weighing 30 kg and measuring 1,75 m in height, play out scenes from William Shakespeare 's plays. There is also a planetary with the cupola measuring 16 m in diameter.

THE MODERN WAY
The Warsaw Rising Museum

One of the most modern museums in Poland. The Warsaw Rising Museum was opened in 2004 to commemorate the 60th anniversary of the uprising. The Warsaw Uprising broke out on 1st August 1944 and was a sign of the citizens' protest against the Nazi occupation. The museum is located in the former power station of a tramway depot. It offers an innovative combination of history with modernity. With the help of the modern means of presentation the museum attempts not only to show the military actions during the 63 days of fighting in the city, but also to render the atmosphere of everyday life. The visitors move in the scenery of the ruins of Warsaw from six decades ago, the route leading through an imitation sewer. There is also a 1:1 replica of a Liberator B-24J plane.

THE FOUR SENSES
The Chopin Museum

The Museum holds the largest collection of Chopin memorabilia in the world. On the museum's four floors the life and work of the great composer are presented in an original and innovative way. Each floor presents a different stage in Chopin's life. Multimedia displays refer to the four senses: sight, touch, hearing and smell. To enable each visitor to freely circulate around the exhibits, the museum, which has the area of over 4,500 m^2, admits only up to 70 visitors at a time. The museum also hosts concerts and lectures on the subject of the composer's oeuvre.

LIST OF ILUSTRATIONS

- Mirosław Kaźmierczak: 2, 7, 8, 9, 12, 14, 15, 19, 26, 29 (2), 32
- APA Kuryłowicz & Associates: 10 (1)
- Architecture Design Studio 1997 LTD: 11 (both)
- Arch Magic Associates Architects, Paweł W. Graliński: 10 (2)
- David Hill: 16 (1), 18, 24
- Julian Murphy: 16 (2), 17, 21
- Karol Trela: 23

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- Piotr Wierzbowski: 29 (1)
- Zbigniew Panów (PZ Studio): 27, 28, 29 (2)

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