

Contents

Issue 5, 2016

WORLD SCIENCE

[Sashka Alexandrova: Aristotle and the Empirical Basis of Knowledge](#)

[Nikola Balabanov: The Joint Institute for Nuclear Research in Dubna – an Example for a Union of Science, Education and Culture](#)

PROJECT-BASED FINANCING OF SCIENTIFIC RESEARCH

[Galia Angelova: Project AComIn: Advanced Computing for Innovation](#)

SCIENTIFIC RESEARCH

[Fanny Koleva, Miglena Molhova-Vladova: Patent Activity in the Field of „Green Technologies“ in Bulgaria](#)

3RD NATIONAL CONGRESS OF PHYSICAL SCIENCES

Physical Sciences in Bulgaria between Two Congresses

[Alexander G. Petrov, Ana Georgieva, Penka Lazarova: Milestones of the Bulgarian Physics after the Second Congress of Physical Sciences](#)

SCIENTIFIC CONFERENCES AT USB – VELIKO TARNOVO

Valentina Stojanova: 2016 – Fruitful and Successful for the USB-Branch Members in Veliko Tarnovo

[Petko St. Petkov: 140 Years of the April Uprising in 1876](#)

[Ivan Nurkov: The Weapons of the April Uprising in 1876](#)

DESERVED RECOGNITION

The Bulgarian Prof. Dr. Tenio Popmintchev among the 10 Rising Young Scientist in the World

Bulgarian Scientists Receive an Outstanding Award in the Field of Zeolites

HEALTH AND MEDICINE

[Violina Boeva-Bangjozova et al.: A Look at the History of Scientific Research on Trichinosis](#)

GLIMPSE AT THE PAST

[Vladimir Gamza: Bulgarian Gardener Migrant Workers North of the Black Sea: Means of Living and the Political Vicissitudes of Fate](#)

INFORMATION

[Garo Mardirossian: Space Junk](#)

THE FLOOR TO THE YOUNG PEOPLE

[Ventsislav Ignatov: Architectural Establishment of the City of Russe as a Gate to Europe in the End of the 19th and the Beginning of the 20th Century](#)

Vessela Vassileva: Two Bulgarian Pupils Receive an Award at the Competition for Young Scientists in Brussels

ANNIVERSARIES

Georgi N. Nikolov: Academic Maturity (Acad. Vasil Gyuzelev turned 80)

SCIENTIST'S THOUGHTS

[Nikolay K. Vitanov: On Science Dynamics, Indexes for Evaluation of Research Production and Science Management in our Country](#)

SCIENTIFIC EVENTS AT THE USB

Emilia Zornishka: Letters of the Apostle of Freedom Vasil Levski, kept in the Collections of the Museums of Military History – Pleven

BOOK REVIEW

WORLD SCIENCE

Sashka Alexandrova: Aristotle and the Empirical Basis of Knowledge

Aristotle and empirical basis of knowledge

Sashka Alexandrova

Abstract

This article is dedicated to the 2400 years since the birth of one of the greatest thinkers in the history of civilization - Aristotle. Facts about his life and his scientific pursuits are introduced. Aristotle's views on the structure of the universe, the laws of physics and how to achieve our knowledge of the world are presented. Aristotle's legacy is that we live in a real and knowable world which we have to explore and explain. His basic ideas include a consistent explanation based on experimental evidence and logical analysis. The works of Aristotle lay down the systematic development of science and philosophy, creating the basic framework for understanding nature.

Nikola Balabanov: The Joint Institute for Nuclear Research in Dubna – an Example for a Union of Science, Education and Culture

The Joint Institute for Nuclear Research in Dubna – an example for an union of science, education and culture

Nikola Balabanov

Abstract

The paper presents some of the most important contributions in science of the Joint Institute for Nuclear Research (JINR), which in 2016 celebrated 60 years from its foundation. Simultaneously with its establishment as a world famous scientific center, the institute was recognized as a high rank educational center and organizer of bright public events. The traditions in the institute for realization of the integration of the various branches of science and the culture, continuity in the scientific work and appreciation to deserving scholars is also pointed out. The Bulgarian scientists with a noticeable input in the collaboration with JINR are also mentioned.

PROJECT-BASED FINANCING OF SCIENTIFIC RESEARCH

Galia Angelova: Project AComIn: Advanced Computing for Innovation

PROJECT ACOMIN: ADVANCED COMPUTING FOR INNOVATION

Galia Angelova

Abstract

The mission of AComIn project, funded by the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement № 316087, is to strengthen the research and innovation capacity of the Institute of Information and Communication Technologies – Bulgarian Academy of Sciences (IICT-BAS). Experienced researchers from abroad were attracted to work in AComIn, using the high tech equipment purchased in the project. The team delivered excellent results in advanced computing, language and semantic technologies, signal and image processing, optimisation and intelligent control. Technology transfer to industry and users from the public sector was another focus in the project. Innovation-oriented research tasks enabled the filing of numerous patent applications. Active dissemination was organised to the academic community and the society as a whole. In 2016 the European Commission included AComIn in the book „Achievements of FP7: examples that make us proud“. The project received also national co-financing from the Bulgarian Ministry of Education and Science.

SCIENTIFIC RESEARCH

Fanny Koleva, Miglena Molhova–Vladova: Patent Activity in the Field of „Green Technologies“ in Bulgaria

Patent Activity in the Field of „Green Technologies“ in Bulgaria
Fanny Koleva, Miglena Molhova–Vladova

Abstract

The creative activity results in the field of ecology (the so called „green“ technologies) become more and more popular in compliance with the trends in the public and economic development. On the other hand they require investments the recouping of which can be supported by the intellectual property system. Therefore analysis of the trends in the patenting and utility model registration of „green“ technologies in Bulgaria for the period 2010–2014 has been realized in order to check if their protection is popular enough. The results of this analysis may serve as a base for development of policies in the field, moreover the data shows that those kinds of technologies seem to have been evaluated by the applicants as riskier ones. This is probably among the reasons to have those technologies as a priority of many non-profit organizations, governments and international organizations. Therefore the development of relevant encouraging policies in the field is not only possible but also necessary.

3RD NATIONAL CONGRESS OF PHYSICAL SCIENCES
Physical Sciences in Bulgaria between Two Congresses

Alexander G. Petrov, Ana Georgieva, Penka Lazarova: Milestones of the Bulgarian Physics after the Second Congress of Physical Sciences

MILESTONES OF THE BULGARIAN PHYSICS AFTER THE SECOND CONGRESS OF PHYSICAL SCIENCES

Alexander G. Petrov, Ana Georgieva, Penka Lazarova

Abstract

In this paper we present the introductory talk at the III National Congress of Physical Sciences. In it we review the achievements in physical scientific research of colleagues, research teams and institutions for the period of 3 years after the previous Congress. These achievements are noticed and recognized in the national and international physics communities and corresponding awards and honors were given to their authors by the highest state institutions, foundations and scientific organizations. The role of the Union of physicists in Bulgaria in promoting them and developing and sustaining active national and international cooperation in the field of contemporary physical sciences and education is also noted. Hence the outlined achievements and the international cooperation of the Bulgarian scientists create the milestones and future prospective of the development of Bulgarian physical sciences.

SCIENTIFIC CONFERENCES AT USB – VELIKO TARNOVO

Petko St. Petkov: 140 Years of the April Uprising in 1876

140 YEARS FROM APRIL UPRISING 1876

Petko St. Petkov

Abstract

This report offers analysis on the development of Bulgarian national liberation movement in the 19th century and the place and importance of the April Uprising 1876 in it. Are grounded conclusions about the enduring historical changes in the historical development of Bulgarians, Balkans and Europe as a result of the uprising and provoked him Russo-Turkish War of 1877-1878.

Ivan Nurkov: The Weapons of the April Uprising in 1876

THE WEAPONS OF APRIL REVOLT 1876

Ivan Nurkov

Abstract

The climax of Bulgarian national revolution (1862–1878) is April revolt (1876). Then the people rebelled with weapons in their hands against the mighty Ottoman Empire. Its army is armed with the most modern weapons – „Martini-Henry“, „Snider (Schneider)“, „Springfield“, „Colt“, „Smith and Wesson“. The rebels are armed with firearms flint and percussion-capsular mechanism, but some have „Henry-Winchester“, „Chassepot“, „Lefauchaux“, „Gasser“. The aim is to generalize the notion of weapons used and supply them and to discuss in more detail Chassepot, which is especially great historical significance.

Keywords: History of weapons, April revolt (1876), firearm and other weapon of the rebels.

HEALTH AND MEDICINE

Violina Boeva–Bangjozova et al.: A Look at the History of Scientific Research on Trichinosis

LOOK AT THE HISTORY OF SCIENTIFIC RESEARCH IN TRICHINOSIS

Violina Boeva-Bangjozova, Krasimira Eneva, Dobrin Popov and Violin Bangjozov

Abstract

Trichinosis is the most dangerous for human helminth infection by foodborne-parasitooonosis with natural and sinatropic fireplaces. A serious public health problem.

The aim of the article is to throw a short look at the history of scientific studies trichinosis in the world and in our country.

Analysis of the results of scientific research show significant scientific achievements not on ly of foreign authors, but ours which should only be proud. Trichinosis is not only medical veterinary, but and generali biological problem, which requires and in future continue interdi sciplinary feasibility study.

GLIMPSE AT THE PAST

Vladimir Gamza: Bulgarian Gardener Migrant Workers North of the Black Sea: Means of Living and the Political Vicissitudes of Fate

BULGARIAN GARDENER MIGRANT WORKERS NORTH OF THE BLACK SEA:

LIVELIHOOD AND DESTINY

Vladimir Gamza

Abstract

The first Balkan migrant workers appear north of the Black Sea at the beginning of the XIX c., but their mass relocation in the region during the last quarter of the century. Bulgarian gardeners adapt quickly to local conditions and create micro colonies around southern cities. For successful adaptation of pechalbars to Russian conditions helps religious (Orthodox) and ethnic (Slav) identity with the population of the empire.

Bulgarian gardeners become part of the agrarian history of Southern Ukraine. The word „Bulgarian“ has become synonymous with diligent gardener. After 1917 many migrant workers return to Bulgaria, while those who remained in the Soviet Union share the fate of its citizens.

INFORMATION

Garó Mardirossian: Space Junk

SPACE JUNK

Garó Mardirossian

Abstract

The problem with the pollution of near-Earth space and the Cosmos is very actual for nonfunctional and damage space crafts and derbies which are dangerous for spacecrafts especially such as piloted.

In paper in accessible format are considered the essence of space junk and their real dangerous as for near-Earth space as directly to the Earth.

It is given examples of the history of astronautics for several cases of emergencies caused by circling around our planet space junk from various spacecraft.

There are marked measurements against this dangerous and participation of the Bulgarian scientists in their realization.

THE FLOOR TO THE YOUNG PEOPLE

Ventsislav Ignatov: Architectural Establishment of the City of Russe as a Gate to Europe in the End of the 19th and the Beginning of the 20th Century

ARCHITECTURAL ESTABLISHMENT OF THE CITY OF RUSSE AS A GATE TO EUROPE IN THE END OF XIX AND THE BEGINNING OF XX CENTURY

Ventsislav Ignatov

Abstract

The city of Russe is often called „*The Pearl of Danube*”. Architectural shape of this beautiful town was created in the beginning of XIX century. In this paper we consider first historical bases of the architectural styles in Russe starting from XIV century. The urban establishment of the city is presented from the point of view of European influence at this time. We call Russe – a gate to Europe, because the old houses in the down town show the unique architectural style of the city.

SCIENTIST'S THOUGHTS

Nikolay K. Vitanov: On Science Dynamics, Indexes for Evaluation of Research Production and Science Management in our Country

ON SCIENCE DYNAMICS, INDEXES FOR EVALUATION OF RESEARCH PRODUCTION AND SCIENCE MANAGEMENT IN OUR COUNTRY

Nikolay K. Vitanov

Abstract

The paper begins by a short personal story about the personal way of the author in the area of studies on the dynamics of complex scientific systems and the assessment of the research production. Several consequences from the nonlinearity of research systems are discussed and the necessity of having well equipped, well paid, and capable army of national scientists is emphasized. Short information about indicators and indexes for assessment of research production follows and as an example the index of Hirsch is discussed in more detail. The existence of statistical laws for evolution of research systems is further discussed in the text. The law of Lotka for scientific papers as well as the concentration-dispersion effect presented in the most research organizations are briefly mentioned. The discussion ends by information about the deterministic and statistical models arising in the research on the evolution of scientific systems as well as by mentioning of statistical distributions of Yule, Waring, etc. that describe some of statistical properties of the complex research systems connected to distribution of papers, citations, aging or research information, etc. All discussed topics are accompanied by observations of the author about the management of the national scientific system from the last quarter of century.

BOOK REVIEW