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Abdus Salam and His Role in the Advancement of Science in the World, Especially in Developing and Islamic Countries

Ahmad Shaabani

Faculty of Chemistry, Shahid Beheshti University, Tehran, Iran
Member of the Chemistry Branch of the Academy of Sciences of the Islamic Republic of Iran
a-shaabani@sbu.ac.ir

Abstract

The migration of elites is a significant issue in today's world, particularly in developing countries with increasing high rates. The important questions are: what are the benefits and disadvantages of elite immigration for the country of origin, destination, and the world community? Do they consider the benefits and drawbacks of immigration for the benefit of the world community? What mechanism can be used to maintain and provide incentives for the return of scientific elites? To address these questions, the scientific career of one of the most prominent elites of Islamic society, Dr. Muhammad Abdus Salam, the first Muslim to win the Nobel Prize in Physics, has been chosen for analysis. This analysis also raises more specific questions about him, such as: Could Abdus Salam of Punjab University have succeeded in winning the Nobel Prize like Abdus Salam of Imperial College? Can Abdul Salam from the University of Punjab have the same impact and influence as Abdul Salam from Imperial College University? Did the significant role that Abdus Salam played at Imperial College in advancing science in developing and Islamic countries also have the potential to be achieved by Abdus Salam at the University of Punjab? In other words, was the influence of Abdul Salam of Punjab University on the world scientific community and global science comparable to that of Abdul Salam of Imperial College? This article, with introduction of Abdul Salam's role in the advancement of science in the world, especially in developing and Islamic countries, has been studied, and by referring to the migration phenomenon in Asian and European countries, the raised questions have been answered.

The Confusion of Contemporary Arms Experts Caused by the Chaotic Writings of Engravers in the Safavid Era

Mehdi Rajabalipour

Academy of Sciences of the Islamic Republic of Iran

mradjabalipour@gmail.com

Abstract

In this article, we will focus on two types of chaotic writings, which we will refer to as «letter chaotic» and «digital chaotic.» The study of the first topic viewed as a type of calligraphy art and its deciphering is as entertaining as logo games will be quickly done with a few examples. However, we will reflect more on the topic of «numbers» because it discusses the carelessness of engravers and historians of the Safavid era in writing or ignoring “zero”, which is reminiscent of the carelessness of scribes in antiquities. The analysis of chaotic numerical writing requires us to review the history of the emergence of «zero» in Introduction. Misunderstandings arising from messy writing have created the belief in the minds of contemporary swordsmanship experts that for several centuries after the death of the two well-known swordsmiths, Kalbali Isfahani and Asadollah Isfahani, working for Shah Abbas the Great, some other master swordsmiths forged their signatures. In this article, we prove by discovering the correct encryption of the dates on the swords that after the death of these two masters, there was only one Kalbali II, who was a son of Master Asadollah I, and there was only one Asadollah II with no information about his father.

Educational and research blindness:

Part 1) The logic of Scientific Discovery to Discriminate Researches Oriented Toward Obtaining New Knowledge From Decorative, Marginal Ones

Kamran Sharifi

Department of Clinical Sciences, Veterinary Medicine, Ferdowsi University of Mashhad

shariffp@um.ac.ir

Abstract

The fundamental theory of research is based on obtaining new knowledge according to observable phenomena or facts. The goals of an original research are description, prediction, explanation and application to answer the fundamental research quest and finding an applied procedure to solve a typical problem. With the expansion of Universities and research institutes, the codification and explanation of conceptual models, criteria, standards, benchmarks and rules are instrumental, in order to conduction and collaboration of all the research activities, according to the visions and missions, leading to enactment and endorsement of regulations and style sheets determining the manner and behavior of researchers and the Universities. Choosing an inappropriate conceptual model, invariably causes deviated research activities by Universities and research institutes, which reshapes the research to a decorative matter, hampering the acquisition of valid applied knowledge, but might serve the researcher's career interests, as well as climbing the academic, social, and even political ladders.

The pressure for increasing the number of publications, as the main evaluation criteria in a pathologic competitive atmosphere, caused extensive deviations in the research behavior of Universities and research institutes. The evaluation of the originality of research activities and the outcomes (publications, technologies, new procedures and problem-solving abilities) from the decorative, marginal and mainly focused on increasing publishing article numbers, would be accomplished by considering how research articles follow the logic of scientific discovery criteria.

Keywords: the logic of scientific discovery, Educational and research blindness, conceptual models, plagiarism

Dengue Fever: Virus Biology and Disease Spread

Shakiba Darvishalipour

Department of Biotechnology, Faculty of New Sciences and Technology, Semnan University

Darvishalipour@semnan.ac.ir

Abstract

Dengue fever is rapidly spreading and seriously threatens public health in tropical and sub-tropical countries. The virus genome is single-stranded RNA; the virus belongs to the flavivirus genus and the Flaviviridae family. There are four serotypes (DENV1-, DENV2-, DENV3-, and DENV4-) of dengue virus. This disease, caused by the bite of a female mosquito infected with the dengue virus, is primarily spread by the *Aedes aegypti* and rarely the *Aedes albopictus*. While many dengue infections are asymptomatic, the disease can cause a wide range of illnesses, from mild to severe. Diagnosis of dengue infection can be done by monitoring the virus genome using polymerase chain reaction (PCR), the identification of NS1 antigen, or the presence of anti-dengue antibodies in serum, plasma, circulating blood cells, or other tissues. Over the past few decades, the prevalence of dengue fever has increased significantly, posing a growing threat to public health, particularly in tropical and subtropical regions. This study investigates the biology, pathogenesis, epidemiology, clinical manifestations, and diagnosis of dengue infection.

Keywords: Dengue fever, Epidemic, Pathogenesis, Clinical symptoms, Dengue virus

Plants and Fungi, and the Challenges of Food, Medicine and Energy

Farrokh Ghahremaninejad^{1*} and Hamid Nazari²

1-Department of Plant Sciences, Faculty of Biological Sciences, Kharazmi University, Tehran, Iran.

2-Department of Biology, Bu-Ali Sina University, , Hamedan, Iran.

*fgh@khu.ac.ir

Abstract

In this article, an attempt has been made to show the importance of research to find new species with the potential to be used as food sources, and by citing examples of lesser-known species that are present in some places in the diet of local people, solutions to the challenges ahead. It should be mentioned like famine. With the growth of the world population and an increase of about two billion people by 2050, the importance of finding new food and medicine, especially from plant and mushroom sources, is more visible for the future of humankind. The discovery of new species becomes more important because a limited number of plants are recognized as a major part of the human diet, and diseases and a decrease in genetic diversity may lead to their extinction and eventually to possible famines. Much of this paper, which examines knowledge gaps and uncovers the known and potential benefits of fungi and plants to us and our planet, comes from a collaborative report by 210 researchers from 97 institutions in 42 countries.

Keywords: Extinction, Food threat, Genetic diversity, Biosphere, Species

Global Economic Outlook for the Catalyst Industry and Challenges in Catalyst Supply and Production in Iran

Mohammad Hosein Mohseni¹, Faranak Manteghi^{1*}

1. Faculty of Chemistry, Iran University of Science and Technology, Tehran, Iran

*f_manteghi@iust.ac.ir

Abstract

Nowadays, the growing and development of modern industries without a deep knowledge and consciousness of catalysts production and consumption seems impossible. Catalysts are of high-consumption materials in oil, gas, petrochemical and automobile industries that at least one catalyst is necessary for their manufacturing process. Investigating the global catalyst market in recent years shows that due to the increasing capacity of oil refining and production of petrochemical products, the highest growth of catalyst consumption occur in China and Middle East. In Iran, due to the complete dependence of oil and gas industries upon foreign countries for providing the process technologies, catalyst industries are still importers and directly dependent to applied licenses. In effect, the direct relation between the parts of both process and catalyst technology development, and due to the cost and time of the two parts, it is expected to have the growth of catalyst industry in the country. This paper deals with the concepts and applications of catalysts along with their general classification. In this regard, investigation of global statistics for the catalyst consumption in different countries gives a comprehensive illustration for those involved in this huge industry. Analyzing the global market, identifying the large manufacturers, examining the existing challenges in industries, estimating the total volume of refinery and petrochemical catalysts' market and analyzing the quality and quantity of catalyst industry market, it is hoped to take efficient steps in developing the domestic catalyst market.

Kindness and Wisdom: The Civilizational Gift of Mathematics

Arezou Rezaei^{1,2}

1. School of Biology, Damghan University, Damghan, Iran

2. Institute of Biological Sciences, Damghan University, Damghan, Iran

arezaei@du.ac.ir

Abstract

The influence of mathematics on the existence and aspects of human life is impressive and extensive. Mathematics and mathematicians, directly or indirectly, have been important contributors to scientific revolutions and have helped human wisdom to be recognized as the most efficient tool to reach the truth. Scientists and researchers in many scientific fields, including biological and medical sciences, grapple with issues that they cannot adequately address without mathematical knowledge, they lack the ability to formulate problems, propose appropriate solutions, and analyze the results obtained. Mathematics knowledge and mathematical perspective can add new life and momentum to knowledge. Beyond that, just as mathematicians were able to overcome superstition through science, they can free civilization from its sufferings and discontents and continue to shine light on the dark world of human ignorance. It is not unreasonable to say that mathematics has helped wisdom and kindness become the most enduring skills and legacies of human civilization.

Keywords: Mathematics, biology, wisdom, kindness, culture, civilization.

This article is dedicated to Giordano Bruno and all those who fought against superstition and lies to the very end.

A Bit More Detailed About Turing Test in the World of Artificial Intelligence

Bahram Sadeghi Bigham

Department of Computer Science, Faculty of Mathematical Sciences, Alzahra University, Tehran, Iran

b_sadeghi_b@alzahra.ac.ir

Abstract

Although the answer to this question is obvious for computer experts, today we encounter various people who ask with doubts about this. Where is the end of artificial intelligence defined by scientists? What is the Turing test that was proposed more than 70 years ago and can artificial intelligence and tools like ChatGPT pass this test? In this short article, we try to address this simple question and its basics. At the end of the article, the reader will give a clear answer to this question.

Keywords: artificial intelligence, Alan Turing, Turing test

A Review of the Works of the Abo Ryhan Biruni The Glory of the Integrity of the Elite and Maturity

Ali Farazmand

Faculty of Biology, University of Tehran
Biology Branch of the Iran Academy of Sciences

afarazmand@ut.ac.ir

Abstract

After introducing the works of Abu Rayhan Muhammad ibn Ahmad al-Biruni, the Iranian scientist of «All Ages», this article has a brief overview of some of the most important works of Biruni. After giving a very short summary of the fruitful life of this incomparable sage and scientist, his important and famous works including the *Vestages of past/The Chronology of Ancient Nations*, *Masudi's Law on Astronomy and Stars*, *Al-Tafhim or Al-Tafhim for the pioneers of the astrology industry*, *Kitab-ul-Hind or A Critical Study of Indian Doctrines, Whether Rationally Acceptable or Rejected*, *The Yoga sutras of Indian Patanjali/Indian Patanjali in freedom of mind*, *Al-Saydana fi al-Tibb or The Book on the Pharmacopoeia of Medicine*, *To Determine the ends of places to correct the distances of dwellings*. For the benefit of the readers, at the end, a number of books written about Abu Rayhan by Iranian writers and researchers have been introduced.