Research of the past for the scientists of today
About Dr. Bor-Ming Jahn

Dr. Bor Ming Jahn is an academician of Academia Sinica, Taiwan, and Distinguished Chair Professor of the Department of Geosciences, National Taiwan University. He conducts research on geochemistry and currently is the chief editor of Elsevier’s Journal of Asian Earth Sciences.

Renowned for his studies in the field of geochemistry, Dr. Bor-Ming Jahn has independently or jointly published more than 200 peer-reviewed academic articles and been cited over 14,800 times. He serves as the Editor-in-Chief of Elsevier’s Journal of Asian Earth Sciences and was also a member of Elsevier’s Chemical Geology Journal and Precambrian Research Journal editorial committees. His research contribution is highly recognized worldwide. He was the director of the Institute of Earth Sciences, Academia Sinica, Taiwan (2004-2010), president of the 7th Chinese Union of Geosciences, Taiwan (2005-2008), Advisory Board member of Academic Award and National Chair Professorship, Ministry of Education (2010-2015), director and Distinguished Research Fellow at the Institute of Earth Sciences, Academia Sinica (2007 and 2008), preparatory group member of the Natural Science and Engineering Group in the Outstanding Contribution in Science and Technology Award of National Science Council, Executive Yuan (2006 and 2007), Review Committee member of the Outstanding Contribution in Science and Technology Award of Ministry of Science and Technology, and comprehensive quality assessment expert of the Institute of Geology and Geophysics of Chinese Academy of Sciences (2004).

In 2012, Dr. Jahn was elected as an academician of Academia Sinica for his academic achievements. He is also a fellow of the Geological Society of America, Mineralogical Society of America, Geochemical Society and European Association for Geochemistry.

During his 27 years in France, Dr. Jahn has mentored numerous students and assisted the Department of Earth Sciences of the Universite de Rennes 1 to become one of the top earth science departments in the country. During his tenure in France Dr. Jahn has also nurtured many outstanding Chinese earth scientists from Taiwan and China.

To this end, Dr. Jahn received the Chevalier dans l’ordre des Palmes Académiques awarded by the French Ministry of Education in 2008 to honor his scientific achievements and commitment to enabling earth science research collaborations between Taiwan and France, and his contribution to the successful establishment of the Associated International Laboratory, the first international research organization on earth science by Taiwan and France. He was also awarded the Prestwich Prize by the Geological Society of France in 2013, and the International Prize by the Geological Society of Japan in 2014. Most recently, he was honored with V. K. Ting Award by the Geological Society of China (Taiwan).

Among the articles written by Dr. Jahn, 54% are published in Elsevier’s journals, including Lithos, Journal of Asian Earth Sciences, Precambrian Research, Chemical Geology, Tectonophysics and other high-impact journals.

Researchers should do more comprehensive reading about related and cross disciplinary subjects because earlier articles are valuable and catalysts for new areas of research.
Dr. Jahn’s research is in geochemistry, where he employs the principles and techniques of element and isotope geochemistry to explore important issues like the evolution of the upper mantle of the earth, continental crust growth, genesis of magmatic rocks (komatiite, basalt and granite), geochemistry of sedimentary rocks and composition of the upper crust, evolution of Archean craton, continental crust subduction and ultrahigh pressure metamorphism, geochemistry of loess and paleoclimate change, and carbonate Pb-Pb dating. His research on earth evolution spans from three billion eight hundred million years ago to today in time and covers the whole globe in spatial scale. He has made significant contributions to the research on the Central Asian Orogenic Belt across China, Russia and Central Asian countries and established that the Central Asian Orogenic Belt is the world’s most important area of new crustal accretion in the Phanerozoic. He has undoubtedly opened a new research field, inspiring numerous research articles on the subject. Published papers related to this new field have grown 20 times since 1999.

Dr. Jahn’s research on the ultrahigh pressure metamorphic rock has modified the traditional theory of plate tectonics which held that the continental crust could not sub duct and proven that it could sub duct to a depth of one hundred to two hundred kilometers. His analysis of the loess’s chemical composition has provided a further understanding of the research on ancient crust and paleoclimate. The five articles that were published were cited more than 700 times.

Elsevier’s journals are pertinent to the field of earth and planetary science

Dr. Jahn has been the chief editor of Elsevier’s Journal of Asian Earth Sciences since 2006. He was also a member of the Elsevier’s Chemical Geology Journal and Precambrian Research Journal editorial committees. Approximately 54% of his articles are published in Elsevier’s journals and four out of his five high impact articles on the research of loess geochemistry on paleoclimate change are published with Elsevier.

The 2012 Impact Factor figures for earth and planetary science show that in terms of total citations four out of the top five journals in the category of geochemistry and geophysics are published by Elsevier. These include influential publications such as Geochimica et Cosmochimica Acta, Earth and Planetary Science Letters, Chemical Geology, and Tectonophysics.

Citing earlier works from ScienceDirect’s Pre-1995 Backfiles

Among the articles published by Dr. Jahn between 2010 and 2015, 29% cited backfiles before 1995, with 21% of the cited backfiles from Elsevier’s journals. In his article entitled “Emplacement Ages, Geochemical and Sr-Nd-Hf Isotopic Characterization of Mesozoic to Early Cenozoic Granitoids of the Sikhote-Alin Orogenic Belt, Russian Far East: Crustal Growth and Regional Tectonic Evolution” recently appeared in Elsevier’s Journal of Asian Earth Sciences, he specifically cited his article entitled “Mesozoic thermal events in southeast China”, which was published in Nature in 1974 when he worked at NASA. The research explained the late Mesozoic magmatism in southern China and further argued the relationship between the large number of magmatism and rapid sea-floor spreading on the Pacific Rim in the Cretaceous period. Dr. Jahn is the first person to use the theory of plate tectonics to explore the crustal evolution in southern China. Among the earlier articles that Dr. Jahn cited, he praised Donald J. DePaolo, as “DePaolo was the first to use Nd isotope geochemistry to tackle many large-scale geological problems. His work has revolutionized the geochemical, petrogenetic and tectonic research. The influence of his early papers is significant to the entire field,” Dr. Jahn said.

Dr. Donald J. DePaolo has been teaching and conducting research at the University of California, Berkeley, and the Lawrence Berkeley National Laboratory since 1988, and is the director of the institution’s Center for Isotope Geochemistry. His research specializes in radioactive isotope geochemistry as well as the application of physics and chemistry on basic geological problems and principles.

In the field of geochemistry, research on the relationship between the genesis of peraluminous granite and the tectonic environment as well as peraluminous granite and its geodynamic significance are the focuses of the international geological academic circle in recent years. Since the concept of peraluminous granite was proposed by Shand S James in 1927, great importance had been attached to its research, especially during the 1970s and 1980s when research activities spiked. For example, a worldwide contrastive research fever became pervasive (e.g., Barbarin, 1990, 1996; and Roycroft, 1991) after Chappell Bruce W (1974) proposed the S-type granite (strongly peraluminous granite) and its genetic model. Working with these classic backfile papers is very helpful for the research on peraluminous granite.

Earlier papers and articles are very popular among other research fellows in the field of earth and planetary science at National Taiwan University (NTU). Among the work published by the faculty members of NTU between 2010 and 2015, 25% of the citations are from papers published before 1995, and 20% of these citations used backfile papers published by Elsevier. Researchers should do more comprehensive reading about related and cross disciplinary subjects because earlier articles are valuable and catalysts for new areas of research,” Dr. Jahn said.

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Research contribution by others continues to affect global research work after many years

At Elsevier, we know through research that scientists need to keep up-to-date with developments in their field, that they have to read through a lot of information before they get to that which is valuable to them, and that they generally need to find the right research at the right time. According to analysis by Elsevier’s research team on the five top-10 world universities in Asia ranked by The Times, 15% of research papers have citations from pieces published before 1995 and 14% of them are papers published by Elsevier. By understanding the importance of earlier articles – more specifically those before 1995 – academics will be better able to achieve successful results.

In line with Google’s observation, we notice that there is a growing impact of earlier articles. Google published an article entitled “On the Shoulders of Giants: The Growing Impact of Older Articles” in November 2014 on the citation status of older articles by new articles. “The trend of a growing impact of older articles also holds for articles that are at least 15 years old and those that are at least 20 years old. In 2013, 21% of citations were to articles ≥ 15 years old with an increase of 30% since 1990, and 13% of citations were to articles ≥ 20 years old with an increase of 36% over the same period. Now that finding and reading relevant older articles is about as easy as finding and reading recently published articles, significant advances aren’t getting lost on the shelves and are influencing work worldwide for years after”.

Sources:

1, 2, 3, 5. Data capture time: August 2015, Source: Scopus
3 Resource: Liao Zhong-Li, Outstanding young scientists project summary report
6 The article published by Google in November 2004
On the Shoulders of Giants: The Growing Impact of Older Articles