

Zdeněk Johan (1935–2016)



Zdeněk Johan, emeritus Scientific Director of Bureau de Recherches Géologiques et Minières (BRGM), passed away in Orléans (France) on February 13, 2016.

Zdeněk Johan was born on November 18, 1935 in Lomnice nad Popelkou in the north of the Czech Republic (formerly Czechoslovakia). During his youth he divided his time between his three major interests: collecting minerals, astronomy, and classical music (he was an excellent pianist and singer). He finally decided to study mineralogy at Charles University in Prague, where he graduated with honours in 1958. In 1961 he defended his PhD thesis on the mineralogy of the binary Cu–As system. He was persecuted by the communist regime, and decided to emigrate in France in 1969. He worked as a research officer in BRGM, as did his wife Věra, where he later became Head of the Department of Mineralogy. Between 1977 and 1989 he was a Director of the Centre de Recherches sur la Synthèse et la Chimie des Minéraux of the Centre National de la Recherche Scientifique (CNRS) in Orléans. He then returned to BRGM, where he served as Scientific Director and Scientific Advisor until his retirement in 2000.

In his research activities he always underlined the utility of mineralogy and crystal chemistry for an understanding of geological processes, especially those related to the formation of mineral deposits. Over the years he made significant contributions in understanding ophiolite-type mineral deposits and layered mafic and ultramafic intrusions, where he focused on mineralizations of Cr and platinum-group elements (*e.g.*, Johan *et al.*, 1983a; Johan & Watkinson, 1985; Johan *et al.*, 1989; Johan, 2006), as well as the metallogenesis of granitoid-related W and Sn deposits (together with his wife Věra; *e.g.*, Johan & Johan, 2005; Johan *et al.*, 2012).

I was fortunate that he became my advisor and mentor during my PhD at the University of Orléans. He was a source of inspiration to me due to his fascinating and broad knowledge of geology, chemistry, and physics. I was very happy that we spent the next fifteen years working together on the mineralogy of high-temperature industrial materials of anthropogenic origins (slags, fly ash) (*e.g.*, Ettler & Johan, 2003, 2014; Ettler *et al.*, 2009, 2015). He described several tens of new minerals (*e.g.*, Johan, 1958, 1976; Johan & Hak, 1961, 1970, 1987; Johan & Picot, 1972); a new arsenate mineral of the lavendulan group, $\text{NaPbCu}_5(\text{AsO}_4)_4\text{Cl} \cdot 5\text{H}_2\text{O}$ (IMA 1992–037), which was found in 1992 in the Cap Garonne mine in Var (France), was named zdeněkite in his honour. Together with Paul Picot he published the excellent *Atlas des minéraux métalliques* (1977), published again in 1982 in the English version as the *Atlas of ore minerals*.

He was a fellow of the Mineralogical Society of America and a member of the Mineralogical Society of Canada, Société française de Minéralogie et de Cristallographie (SFMC), and other professional and learned

societies as well as national academies. He also served as a president of SFMC in 1993, as treasurer of the International Union of Geological Sciences (IUGS, 1996–2000), as vice-president of the International Mineralogical Association (IMA, 1994–1998), and as president of the Society of Geology Applied to Mineral Deposits (SGA, 1997–1998).

Zdeněk Johan received a number of honours. He was awarded the A. Dumont Medal (Société géologique de Belgique, 1987), Charles-Louis de Saules de Freycinet Medal (French Academy of Science, 1988), Faculty of Science Medal (Charles University in Prague, 1989), E. Bořický Medal (Charles University in Prague, 1992), R.-J. Haüy Medal (SFMC, 1993), Abraham-Gottlob-Werner Silver Medal (Deutsche Mineralogische Gesellschaft, 1993), Gold Medal (Charles University in Prague, 2005), SGA-Newmont Gold Medal (SGA, 2007), and a doctorate *honoris causa* at Carleton University (Ottawa, Canada, 1998). In 1990 he was elected a corresponding member of the French Academy of Science, and was decorated by two French national orders: “Chevalier de l’Ordre national du Mérite” (Rider in the French National Order of Merit, 1986), and “Officier des Palmes Académiques” (Rider in the French National Order of “Palmes Académiques”, 1993). In 2001–2008 he was elected as mayor of Isdes in Loiret (France), where he lived.

He is survived by his loving wife, Věra (also his companion in science and his solid support over the years), and his son, Zdeněk, along with his family. The scientific community has lost a colleague who was an excellent mineralogist, crystallographer, and geologist; but also a man of culture, known for his optimism, generosity, and goodness of heart, which will be missed by all of his friends and colleagues across the world. His loss is especially great for the Czech geoscience community, which is grateful for his tireless support over the years.

Vojtěch Ettler
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Selected publications

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- Johan, Z. (1958): Koutekite: a new mineral. *Nature*, **181**, 1553–1554.
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- Johan, Z., Picot, P., Ruhlmann, F. (1987): The ore mineralogy of the Otish mountains uranium deposit, Québec – skippenite, $\text{Bi}_2\text{Se}_2\text{Te}$ and watkinsonite, $\text{Cu}_2\text{PbBi}_4(\text{Se,S})_8$, two new mineral species. *Can. Mineral.*, **25**, 625–638.
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A complete list of Zdeněk Johan’s publications is available as Supplementary Material linked to this obituary on the GSW website of the journal: <http://eurjmin.geoscienceworld.org/>.