

Engineering - Geological Engineering; Studies from University of Queensland Have Provided New Information about Geological Engineering (The role of sodium sulfide in the flotation of pyrite depressed in chalcopyrite flotation)

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2018 APR 16 (VerticalNews) -- By a News Reporter-Staff News Editor at Journal of Engineering -- A new study on Engineering - Geological Engineering is now available. According to news reporting out of Brisbane, Australia, by VerticalNews editors, research stated, "In copper-gold flotation plants, pyrite which is depressed in copper flotation is often floated subsequently with the addition of sodium sulfide (Na₂S) to recover the associated gold. For the first time, this study investigated the role of Na₂S responsible for the flotation of pyrite depressed in chalcopyrite flotation through flotation tests and Cyro-XPS (X-ray photoelectron spectroscopy) analyses."

Financial supporters for this research include Australian Research Council (ARC), Newmont USA Ltd, Newcrest Mining Ltd, China Scholarship Council.

Our news journalists obtained a quote from the research from the University of Queensland, "It was found that the application of Na₂S improved pyrite flotation to the same extent as the application of PAX and the combination of Na₂S and PAX further increased pyrite recovery. It is interesting that PAX and Na₂S promoted pyrite flotation through different mechanisms. PAX reduced the hydrophilic metal oxidation species and adsorbed on pyrite surface, resulting in the flotation of depressed pyrite. Unlike PAX, Na₂S increased the hydrophobicity of pyrite and pyrite flotation by forming elemental sulfur and polysulfide on pyrite surface."

According to the news editors, the research concluded: "The application of PAX and Na₂S at the same time further enhanced the hydrophobicity of pyrite and pyrite flotation as a result of the combined actions of PAX and Na₂S."

For more information on this research see: The role of sodium sulfide in the flotation of pyrite depressed in chalcopyrite flotation. Minerals Engineering, 2018;119():93-98. Minerals Engineering can be contacted at: Pergamon-Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, England. (Elsevier - www.elsevier.com; Minerals Engineering - www.journals.elsevier.com/minerals-engineering/)

Our news journalists report that additional information may be obtained by contacting Y.J. Peng, University of Queensland, Sch Chem Engrg, Brisbane, Qld, Australia. Additional authors for this research include X.M. Chen and Z. Cao.

The direct object identifier (DOI) for that additional information is:

<https://doi.org/10.1016/j.mineng.2018.01.029>. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Brisbane, Australia, Australia and New Zealand, Geological Engineering, Engineering, Sodium Sulfide, Chemicals, University of Queensland.

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