Two Gold Medal Laureates, One Breakthrough: Minnitt & Minkkinen on Liberation-Driven Sampling

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"For liberation-limited ores, the primary strategy is no longer to accommodate massive heterogeneity through impractically large sample masses, but to strategically apply comminution to unlock the ore's inherent homogeneity. This paradigm change enables a move from costly, over-engineered sampling protocols to lean, precise, and economically optimized practices, fundamentally improving the efficiency and reliability of resource evaluation."

This revolutionary news is cited from a recently published paper: "The Hidden Variable in Sampling Protocols: A Review of Liberation Evolution through Subsampling and Comminution" by Richard Minnitt and Pentti Minkkinen:

Minnitt, R., Minkkinen, P. The Hidden Variable in Sampling Protocols: A Review of Liberation Evolution through Subsampling and Comminution. *Math Geosci* (2026). https://doi.org/10.1007/s11004-026-10292-y

For readers of Sampling Science and Technology, this paper complements the discussion initiated in SST nr. 2 by Ana Carolina Chieregati, "A Brief Review of Heterogeneity Tests for Estimating the Variance of the Fundamental Sampling Error" (https://doi.org/10.62178/sst.002.003).

Enjoy reading this breakthrough achievement from two Pierre Gy Sampling Gold Medal awardees.

FURTHER READING

For decades, two powerful but disconnected theories have shaped how we estimate sampling error in mineral processing — with no bridge between them. Minnitt & Minkkinen now provide exactly that: a unified diagnostic framework that tells you whether your ore is truly heterogeneous or simply waiting to be unlocked through targeted comminution. The result is leaner, smarter sampling protocols.

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