

## The **Quality and Transparency** Advocate

**View: Open Science improves reproducibility and transparency, reducing fraud and increasing trust in scientific outcomes.**

Science's claim to authority does not come from magic or secret genius; it comes from its commitment to a process that is transparent, rigorous, and verifiable. In recent years, however, science has faced a "reproducibility crisis," where findings published in prestigious journals could not be replicated by other researchers, eroding both scientific integrity and public trust. The cause is often a system that encourages secrecy, where methods are poorly described and raw data is kept hidden.

Open Science is the most powerful solution to this crisis. When researchers are required to share their raw data, their analysis code, and their detailed methodologies, their work is no longer a black box. Other scientists can check their work, identify honest errors, and expose intentional fraud. This radical transparency creates a powerful incentive for honesty and high-quality work, as researchers know their findings will be scrutinized. It makes the scientific record more reliable and self-correcting. This is not about shaming researchers; it's about building a stronger, more resilient scientific enterprise. By holding researchers accountable for their data and methods, Open Science is the ultimate quality control mechanism, ensuring that when we claim something as "scientific fact," it truly stands on a foundation of verifiable evidence.