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FEPS-SIF Brescia 2026
European Congress of Physiology
Physiology Shaping the Future

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SPECIAL PUBLIC EVENT

Integrity and Reproducibility at the Heart of Science

Brescia, 9 settembre 2026, ore 19.15, Auditorio San Barnaba, Corso Magenta 44

Speakers:

Davide Lovisolo (University of Torino, Italy) *“Causes, remedies and challenges for the reproducibility crisis”*.

David Eisner (University of Manchester, UK) *“Does the academic system encourage fraud and lack of reproducibility?”*

Andrea Grignolio Corsini (Vita-Salute University San Raffaele, Milano, Italy) *“Research policing and reviewer integrity: between scientific accountability and malicious allegations”*.

Integrity and reproducibility lie at the heart of science and are essential to its trustworthiness. As a kind of Hippocratic Oath — the symbolic cornerstone of medical ethics — they remind scientists of the need to remain vigilant against potential deviations from these principles, particularly in the context of new ICT media and an increasingly competitive academic landscape. Scientists must therefore uphold a rigorous and highly ethical approach in all their activities. The first contribution will focus on why reproducibility is difficult, addressing its main causes, remedies, and challenges. The second will discuss how the current academic system may inadvertently encourage poor research practices, fraud, and lack of reproducibility. The final contribution will examine the tensions that may arise between scientific accountability and procedural fairness, exploring how systems designed to detect misconduct can sometimes generate unintended distortions, including peer-review abuse, reputational damage, and unfounded allegations.



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Abstracts

Davide Lovisolo (University of Torino) “*Causes, remedies and challenges for the reproducibility crisis*”.

Reproducibility (i.e., the possibility of replicating a scientific result when the experiments are repeated by a different research team) is considered one of the pillars that legitimize the status of science. The goal is to guarantee the results are reliable and universally usable. The reality, which has never been so straightforward, has become more complicated in recent years due to the huge increase in published data and the pressure towards novelty and, through it, visibility. The scientific community has produced detailed and significant analyses of what has been called “the reproducibility crisis”, focusing primarily on biomedical research, for its impact on human health. It has been found that in this field, only 46% of replication efforts confirmed the original conclusions. The causes are multiple: the rush to publish, stronger for younger researchers at the beginning of their careers in very competitive environments, is certainly one; but more structural problems have been cited, such as the fact that in many cases the requirement for blind studies collides with the rules for handling the laboratory or for animal housing, and that the demands of preclinical research may not be easily appreciated by those working with humans. Several remedies have been proposed, such as greater statistical rigor and stricter control on the projects, but the road is not easy. The challenge of reproducibility extends beyond biomedical research to other disciplines such as physics. Recently, attention has been directed to social and research; here, too, the reproducibility ratio has been found to be around 50%. In this case, the finding may be less alarming, given the substantial heterogeneity of the data and procedures. The context is relevant, and the approaches to increase the reliability of research results may be different. Finally, I will briefly address the concerns that have emerged in recent years about the impact of AI on scientific reproducibility.

David Eisner (University of Manchester, UK) “*Does the academic system encourage fraud and lack of reproducibility?*”

Scientific reproducibility can be damaged by a spectrum of factors. Often referred to as questionable research practices, these range from simple mistakes, through poor research practice and the use of inappropriate statistical analysis, to outright fraud. While proper scientific practice is ultimately a matter of personal responsibility, the thesis of this presentation is that the academic system can inadvertently encourage such activities. Obtaining a research grant, academic post, or promotion are all competitive activities, requiring the evaluation of individuals and their work. This is often done by looking at publications, thereby encouraging rapid and prolific publication. This can favor the use



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of questionable practices. Another perversion arises from judging people by where they publish their science, with the use of the Impact Factor as a simple, if bogus, metric of the quality of work. I will also discuss other factors, such as publication bias, which favors the publication of positive rather than negative results. My conclusion is that fixing the reproducibility crisis will require improving the academic system so that cheats are no longer favored, to the benefit of both science and society.

Andrea Grignolio Corsini (Vita-Salute University San Raffaele, Milan) *“Research policing and reviewer integrity: between scientific accountability and malicious allegations”*.

Research integrity has become a central component of contemporary science and an essential response to concerns about reproducibility, questionable research practices, and scientific misconduct. Over the past decades, international guidelines, research integrity offices, journal policies, and whistleblowing procedures have significantly strengthened the capacity of the scientific community to identify and address fraud, fabrication, falsification, and plagiarism. These developments have undoubtedly improved scientific accountability. However, they have also generated new challenges. As systems of oversight expand, increasing attention must be paid to the integrity of the processes themselves, including peer review, misconduct reporting, and institutional investigations. Concerns have emerged regarding reviewer misconduct, strategic use of anonymous evaluations, unfounded allegations, and the potentially severe reputational consequences of accusations that are not ultimately substantiated. This presentation will discuss how the scientific community can preserve rigorous mechanisms of accountability while ensuring fairness, proportionality, and due process. The broader goal is to examine how research integrity systems can contribute to improving reproducibility and public trust in science without creating a culture of permanent suspicion.