

Journal of Laser Science and Applications

journal homepage: https://jlsa.journals.ekb.eg



Commentary

Osama Fekry Al-Balah

Medical Applications of Laser Department, National Institute of Laser Enhanced Sciences, Cairo University, Egypt

Dear Respectful Editor,

I am writing to express my strong conviction that ethical considerations must be at the forefront of laser applications research. As the field of laser technology continues to rapidly advance, with applications spanning from medicine to manufacturing to telecommunications, it is critical that researchers uphold the highest standards of ethics and integrity.

Lasers are inherently powerful tools that, if misused or applied without proper safeguards, can pose serious risks to human health, safety, and privacy. Laser eye injuries, for instance, can lead to permanent vision damage, while highpowered lasers have the potential to cause fires or explosions if not handled with extreme caution. Moreover, advances in directed energy and sensing technologies raise important questions about data privacy and surveillance.

It is thus incumbent upon the laser research community to proactively address these ethical concerns. Researchers must carefully consider the intended and unintended consequences of their work, and strive to develop laser applications that maximize societal benefit while minimizing harm. This should include robust safety protocols, thorough risk assessments, and ongoing engagement with stakeholders and the public.

Additionally, the research community has an obligation to promote transparency and accountability. Full disclosure of potential conflicts of interest, research methods, and data should be the norm. Whistle-blowing mechanisms and external oversight can also help ensure laser applications are developed and deployed responsibly.

The Journal of Laser Applications is uniquely positioned to lead this vital discussion. By highlighting cutting-edge research that exemplifies ethical best practices, you can inspire the broader laser community to uphold the highest standards. Devoting dedicated journal issues, special features, or invited perspectives on laser ethics would be a meaningful step forward. Now more than ever, as lasers become ever more pervasive in our lives, it is crucial that we harness this transformative technology in service of the greater good. I hope the Journal of Laser Applications will take up this important charge.

Sincerely, Professor Osama Fekry Al-Balah Professor of Zoology and Photobiology NILES, Cairo University.