



ISSN 2250-3889



MATS UNIVERSITY JOURNAL

An Interdisciplinary Journal

Volume 2, Issue 1, December 2023



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About MUJ

MATS University Journal (MUJ) is an official journal of MATS University, Raipur, Chhattisgarh, India. This is committed to publish the original articles, reviews and short communications on the emerging domain.

Message from Patron



Gajraj Pagariya
Chancellor
MATS University
Raipur Chhattisgarh, India

"Take up an idea, make that idea your life – think of it, dream of it, live on idea. Let the brain, muscles, nerves, every part of your body, be full of that idea and just leave every other idea alone. This is the way to success." – Swami Vivekananda.

Research and innovation are the driving force of any nation. This is the duty of every researcher to think creative and innovative but the next step is more challenging which is to introduce them to the public effectively for its application in real life. So, my approach will be on encouraging academics and students to transform their research and ideas to the common people. Through this way India towards developed India. Researchers are carried out and results of the findings are published in MUJ as a way of contributing to the soul of knowledge. MATS University is not an exception in the performance of the four mandates of Universities, i.e. teaching, learning, research and serving the society through the preceding 3 vertices. Hence, MUJ calls for such type of breakthrough research.

My best wishes to the researchers.



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Message from Director General



Priyesh Pagariya
Director General
MATS University
Raipur Chhattisgarh, India

I seize this opportunity to congratulate the researchers, right from the pioneer to the current, for achieving this milestone as MUJ and also to the Editorial board for putting things together reaching this destination. MUJ is committed to publish the original articles for serving the society through the breakthrough research. The publications ensuring a sustainable future; combined arts & humanities, commerce & management, science, engineering & technological investigations for addressing the respective challenges; and mitigating the projected scientific problems for a sustainable world through multi-disciplinary research, where subject and subjective have no limit.

To raise the academic standards of the University to the highest level is my mission and MATS University has emerged as a force to reckon with. MUJ as projected is not only an in-house publication, but an open access/subscription journal for every researchers from all over the world. In addition to being a broad based, mainstream & specialty journal, it can be a gateway for all the aspiring researchers from all disciplines of engineering and applied sciences. I am sure it will grow by leaps and bounds! MUJ is a vector of ingenuity, innovation & constructive research of MATS University.

I congratulate the editorial team and researchers of MUJ and wish them all the best!



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Message from Vice Chancellor



Prof. (Dr.) K. P. Yadav
Vice Chancellor
MATS University,
Raipur Chhattisgarh, India

"No research without action, no action without research". – Kurt Lewin.

I congratulate the Editorial team for reinvigorating the MUJ, and I anticipate that additional exciting new features will be incorporated in the future issues of this journal. Although, to create the innovative knowledge is the only objective of any research but to represent the existed result creatively and implicatively is also referred as research. MUJ is a bi-annually international journal publishing the best peer reviewed research in the feasible domain on the basis of its novelty and interdisciplinary interests. This journal also interprets the breakthrough results on the developing domain with the lucid and illustrative pedagogy. Hence, MUJ has the missions; to serve researchers by publishing their original articles, to provide a forum by reporting their innovations and to ensure that the published results to be transformed the life of common people from an ordinary to outstanding life.

I eagerly look forward to reading about your fantastic scholarly contributions to the MUJ!



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Message from Registrar



Gokulananda Panda
Registrar
MATS University,
Raipur Chhattisgarh, India

I congratulate the editorial team for grand launching of MUJ. I believe that the articles published in this journal will reflect the soul of the research being performed by our researchers in the respective domain. This is the pride moment for me that our researchers have continuously performed toward raising the bar on the parameters of quality and novelty of research published and advancing the significant of research to appear with extreme impact beyond the boundaries of the science and engineering. There is much more to be achieved, but I do faith that we have now MUJ from which we can continue to enhance. Although, there are various reputed national and international journals but MUJ will be referred as unique journal by its corresponding unique domain, i.e. Chhattisgarh, where the knowledge are influenced by its richly endowed with minerals, forests, agricultures and freshwater sources. Innovative knowledge and results cannot be generated without research and development thus MUJ provides the opportunity to publish towards the same. These efforts will undoubtedly generate lots of interesting results and new knowledge as either further investigation or commercial activities. Hence, researchers have this MUJ as the generator of new knowledge to extend their innovative ideas from lab to the life and towards its applications. This is a perception and this is a real knowledge towards "A organized life through knowledge and organized knowledge through life".



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Message from Editor-in-Chief



Dr. Prashant Mundeja
Professor
School of Sciences
MATS University
Raipur Chhattisgarh, India

MATS University is known by its outstanding teaching, learning and research. Besides MUJ publications by the corresponding schools, the researchers and faculty members regularly publish their research papers in reputed journals. The publications have not been the research papers only also have books and chapters in other edited volumes. The pride extends as the faculties of MATS University are now actively involved in Research and Consultancy projects of various agencies. These vertices set the inspiration to initiate the MUJ for providing the in-house opportunity not only for the academics but research scholars and UG-PG students also. MUJ invites original articles, review articles and short communications from the researchers in the interdisciplinary domain. There are both the options to publish your contributions, as an open access and as subscription. The submitted articles are followed the peer review process. In the editorial team, senior professors, scientists, industry experts, technologists, engineers from the MATS University as well as from the various national and international reputed universities. The submission employs with the advanced software, viz. editorial manager, scholarone, orcid etc. This is my kind request to the respective researchers that to visit the MJEAS site once for citing your existed contribution globally through the peer reviewed and advanced submission service. I am thankful to team MUJ for their great coordination to initiate this journal significantly and hopeful for the same in future also.



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11. Data Editing.
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15. Significance*.
16. Comparison*.
17. Results*.
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19. Errors.
20. Future Research.
21. Flow Chart/Algorithm/Path of the Whole Research.
22. Advantage*.
23. Disadvantage*.
24. Limitation*.
25. Conclusion*.
26. Acknowledgement.
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28. Reference*.



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- 29. [Appendix.](#)
- 30. [Symbol.](#)
- 31. [Nomenclature.](#)
- 32. [Abbreviation.](#)
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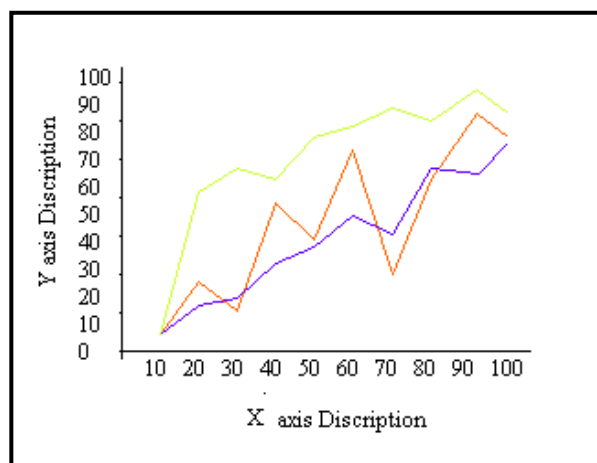


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1. Ding, W. and Marchionini, G. 1997 A Study on Video Browsing Strategies. Technical Report. University of Maryland at College Park.
2. Tavel, P. 2007 Modeling and Simulation Design. AK Peters Ltd.
3. Sannella, M. J. 1994 Constraint Satisfaction and Debugging for Interactive User Interfaces. Doctoral Thesis. UMI Order Number: UMI Order No. GAX95-09398., University of Washington.
4. Brown, L. D., Hua, H., and Gao, C. 2003. A widget framework for augmented interaction in SCAPE.
5. Y.T. Yu, M.F. Lau, "A comparison of MC/DC, MUMCUT and several other coverage criteria for logical decisions", Journal of Systems and Software, 2005, in press.
6. Spector, A. Z. 1989. Achieving application requirements. In Distributed Systems, S. Mullende
7. Forman, G. 2003. An extensive empirical study of feature selection metrics for text classification. J. Mach. Learn. Res. 3 (Mar. 2003), 1289-1305.
8. Fröhlich, B. and Plate, J. 2000. The cubic mouse: a new device for three-dimensional input. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems.
9. Bowman, M., Debray, S. K., and Peterson, L. L. 1993. Reasoning about naming systems. .

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