



Department of Physics
School of Sciences
Maulana Azad National Urdu University
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Gachibowli, Hyderabad,
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MUHAMMAD RAFIQ ABUTURAB

محمد رفیق ابوتراب

CURRENT DESIGNATION/ INVOLVEMENT

- Professor

AREA OF SPECIALIZATION

- Optical Information Processing (Optical Information Cryptosystems)
- Optical Signal Processing (Optical Transforms)
- Digital Holography (Information Security Schemes)

ONGOING ACADEMIC RESEARCH/PROJECTS

- Optical Multiple Single-Channel Cryptosystems
- Computational Imaging Technique based Information Security Systems

INNOVATION WITH FIELD OF STUDY AND COLLABORATIVE EFFORTS

- Color Structured Phase Encoding
- Color Radial-Hilbert Phase Encoding
- Color Spiral Phase Encoding
- Joint-Extended Gyrator Transform Correlator (For Noise-Free Decryption)
- Optical Superposition based Spiral Phase Encoding
- Interference based Wavelet Transform
- Group-Multiple-Image Encoding
- Gyrator Wavelet Transform
- Gyrator Transform Hologram

INTERNATIONAL COLLABORATIONS

Prof. Ayman Alfalou

Professor ISEN Brest, Director of LABISEN – Yncréa Ouest,
LSL Team, 20 rue Cuirassé Bretagne,
CS 42807, 29228 Brest Cedex 2, France

Prof. Zhengjun Liu

Department of Automation, Measurement and Control Engineering,
Harbin Institute of Technology, Harbin 150001, P. R. China

ACADEMIC AND
ADMINISTRATIVE
EXPERIENCE

- Professor, Maulana Azad National Urdu University, Hyderabad, India
1st November 2023 – Present
- Associate Professor, Muzaffarpur Institute of Technology, Muzaffarpur, India
9th September 2022 – 31st October 2023
- Assistant Professor, Maulana Azad College of Engineering and Technology, Patna, India
1st January 2010 – 8th September 2022
- Senior Lecturer, Maulana Azad College of Engineering and Technology, Patna, India.
8th February 2009 – 31st December 2009
- Lecturer, Maulana Azad College of Engineering and Technology, Patna, India
1st August 2007 – 7th February 2009
- Lecturer, Millia Institute of Technology, Purnea, India
24th February 2003 – 31st July 2007
- Co-ordinator Anti-Ragging Committee (MIT, Muzaffarpur)

EDUCATIONAL
QUALIFICATION

- Ph. D. (Physics): M. U., India
- Post-Doctoral Fellow: LABISEN–Yncréa Ouest (Yncréa-Ouest Research Laboratory)
ISEN Brest, France

TEACHING
PROFICIENCY

- Optics
- Quantum Mechanics
- Electromagnetic theory
- Atomic and Molecular Physics
- Nuclear and Particle Physics

RESEARCH
PUBLICATION DETAILS

RESEARCH METRICS

- Number of citations: **1260**, h-index: **24** (Source: Google Scholar)
- Number of citations: **1098**, h-index: **23** (Source: Scopus)
- Number of citations: **1031**, h-index: **22** (Source: Web of Science)
- Impact factor per Research Paper or Article: **3.5**
(Source: Clarivate Analytics, 2023)
- Citation per Research Paper or Article: **36** (Source: Google Scholar)

RESEARCH PAPERS/ARTICLES

- Number of Research Papers/Articles as a single author: **33**
- Number of Research Papers/Articles as a first/corresponding author: **02**

35. M. R. Abuturab, Multiple single-channel cryptosystem based on QZ decomposition, CMYK color space fusion and wavelength multiplexing, **Optical and Quantum Electronics**, 56, 365 (2024).

DOI: <https://doi.org/10.1007/s11082-023-06001-2>

Publisher: Springer Nature, Germany, **2022 Impact Factor: 3**, Indexed in **SCIE**, Q index: **Q2**, Category: **Electrical and Electronic Engineering**

34. M. R. Abuturab, Multiple color image cryptosystem based on coupled-logistic-map-biometric keys, QR decomposition with column pivoting and optical Fresnel transform, *Optics & Laser Technology*, 161,109109 (2023).
DOI: <https://doi.org/10.1016/j.optlastec.2023.109109>
Publisher: Elsevier, UK, 2022 Impact Factor: 5, Indexed in SCIE,
Q index: Q1, Category: Atomic and Molecular Physics, and Optics
33. M. R. Abuturab, Optical single-channel security system using 3D-logistic map biometric keys for multiple color images, *Optical and Quantum Electronics*, 55, 1-19 (2023).
DOI: <https://doi.org/10.1007/s11082-022-04493-y>
Publisher: Springer Nature, Germany, 2022 Impact Factor: 3, Indexed in SCIE,
Q index: Q2, Category: Electrical and Electronic Engineering
32. M. R. Abuturab and A. Alfalou, Multiple color image fusion, compression, and encryption using compressive sensing, chaotic-biometric keys, and optical fractional Fourier transform, *Optics & Laser Technology*, 151,108071(2022).
DOI: <https://doi.org/10.1016/j.optlastec.2022.108071>
Publisher: Elsevier, UK, 2022 Impact Factor: 5, Indexed in SCIE,
Q index: Q1, Category: Atomic and Molecular Physics, and Optics
31. M. R. Abuturab, Securing multiple-single-channel color image using unequal spectrum decomposition and 2D-SLIM-biometric keys, *Optics Communications*, 493, 127034 (2021).
DOI: <https://doi.org/10.1016/j.optcom.2021.127034>
Publisher: Elsevier, Netherlands, 2022 Impact Factor: 2.4, Indexed in SCIE,
Q index: Q2, Category: Atomic and Molecular Physics, and Optics
30. M. R. Abuturab, A superposition based multiple-image encryption using Fresnel-domain high dimension chaotic phase encoding, *Optics and Lasers in Engineering*, 129, 106038 (2020).
DOI: <https://doi.org/10.1016/j.optlaseng.2020.106038>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE,
Q index: Q1, Category: Atomic and Molecular Physics, and Optics
29. M. R. Abuturab, Multiple-information security system using key image phase and chaotic random phase encoding in Fresnel transform domain, *Optics and Lasers in Engineering*, 124, 105810 (2020).
DOI: <https://doi.org/10.1016/j.optlaseng.2019.105810>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE,
Q index: Q1, Category: Atomic and Molecular Physics, and Optics

28. M. R. Abuturab, Securing multiple information using wavelet transform and Yang-Gu mixture amplitude-phase retrieval algorithm, *Optics and Lasers in Engineering*, 118, 42–51 (2019).
DOI: <https://doi.org/10.1016/j.optlaseng.2019.01.015>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE, Q index: Q1, Category: Atomic and Molecular Physics, and Optics
27. M. R. Abuturab, Asymmetric multiple image encryption using a wavelet transform and gyrator transform, *Optics Continuum*, 1, 1111–1130(2018).
DOI: <https://doi.org/10.1364/OSAC.1.001111>
Publisher: Optica Publishing Group, USA, 2022 Impact Factor: 1.6, Indexed in SCIE, Q index: Q2, Category: Atomic and Molecular Physics, and Optics
26. M. R. Abuturab, Asymmetric multiple information cryptosystem based on chaotic spiral phase mask and random spectrum decomposition, *Optics & Laser Technology*, 98, 298–308(2018).
DOI: <https://doi.org/10.1016/j.optlastec.2017.08.010>
Publisher: Elsevier, UK, 2022 Impact Factor: 5, Indexed in SCIE, Q index: Q1, Category: Atomic and Molecular Physics, and Optics
25. M. R. Abuturab, Securing multiple information using chaotic spiral phase encoding with simultaneous interference and superposition methods, *Optics and Lasers in Engineering*, 98, 1–16 (2017).
DOI: <https://doi.org/10.1016/j.optlaseng.2017.05.001>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE, Q index: Q1, Category: Atomic and Molecular Physics, and Optics
24. M. R. Abuturab, Multiple information encryption by user-image-based gyrator transform hologram, *Optics and Lasers in Engineering*, 92, 76–84 (2017).
DOI: <https://doi.org/10.1016/j.optlaseng.2017.01.001>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE, Q index: Q1, Category: Atomic and Molecular Physics, and Optics
23. M. R. Abuturab, Multiple color-image fusion and watermarking based on optical interference and wavelet transform, *Optics and Lasers in Engineering*, 89, 47–58 (2017).
Published in Special issue of Optics and Lasers in Engineering (Optical Image Processing in the context of 3D Imaging, Metrology, and Data Security)
DOI: <https://doi.org/10.1016/j.optlaseng.2016.02.014>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE, Q index: Q1, Category: Atomic and Molecular Physics, and Optics

22. S. P. Barfungpa and M. R. Abuturab, Asymmetric cryptosystem using coherent superposition and equal modulus decomposition of fractional Fourier spectrum, *Optical and Quantum Electronics*, 48, 520 (2016).
DOI: <https://doi.org/10.1007/s11082-016-0786-5>
Publisher: Springer Nature, Germany, 2022 Impact Factor: 3, Indexed in SCIE, Q index: Q2, Category: Electrical and Electronic Engineering
21. M. R. Abuturab, Multiple color-image authentication system using HSI color-space and QR decomposition in gyrator transform domains, *Journal of Modern Optics*, 63, 1035-1050 (2016).
DOI: <https://doi.org/10.1080/09500340.2015.1117671>
Publisher: Taylor & Francis Ltd., UK, 2022 Impact Factor: 1.3, Indexed in SCIE, Q index: Q3, Category: Atomic and Molecular Physics, and Optics
20. M. R. Abuturab, Fully phase multiple information encoding based on superposition of two beams and Fresnel-transform domain, *Optics Communications*, 356, 306-324 (2015).
DOI: <https://doi.org/10.1016/j.optcom.2015.07.085>
Publisher: Elsevier, Netherlands, 2022 Impact Factor: 2.4, Indexed in SCIE, Q index: Q2, Category: Atomic and Molecular Physics, and Optics
19. M. R. Abuturab, Gyrator wavelet transform based non-linear multiple single channel information fusion and authentication, *Optics Communications*, 355, 462-478 (2015).
DOI: <https://doi.org/10.1016/j.optcom.2015.06.069>
Publisher: Elsevier, Netherlands, 2022 Impact Factor: 2.4, Indexed in SCIE, Q index: Q2, Category: Atomic and Molecular Physics, and Optics
18. M. R. Abuturab, Group-multiple-image encoding and watermarking using coupled logistic maps and gyrator wavelet transform, *Journal of the Optical Society of America A*, 32, 1811-1820 (2015).
DOI: <https://doi.org/10.1364/JOSAA.32.001811>
Publisher: Optica Publishing Group, USA, 2022 Impact Factor: 1.9, Indexed in SCIE, Q index: Q2, Category: Atomic and Molecular Physics, and Optics
17. M. R. Abuturab, An asymmetric single-channel color image encryption using discrete Hartley transform and gyrator transform, *Optics and Lasers in Engineering*, 69, 49-57 (2015).
DOI: <https://doi.org/10.1016/j.optlaseng.2015.01.001>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE, Q index: Q2, Category: Atomic and Molecular Physics, and Optics

- 16.** M. R. Abuturab, Generalized Arnold map-based optical multiple color-image encoding in gyrator transform domain, *Optics Communications*, 343, 157-171 (2015).
DOI: <https://doi.org/10.1016/j.optcom.2014.12.085>
Publisher: Elsevier, Netherlands, 2022 Impact Factor: 2.4, Indexed in SCIE, Q index: Q2, Category: Atomic and Molecular Physics, and Optics
- 15.** M. R. Abuturab, Optical interference-based multiple-image encryption using spherical wave illumination and gyrator transform, *Applied Optics*, 53, 6719-6728(2014).
DOI: <https://doi.org/10.1364/AO.53.006719>
Publisher: Optica Publishing Group, USA, 2022 Impact Factor: 1.9, Indexed in SCIE, Q index: Q2, Category: Atomic and Molecular Physics, and Optics
- 14.** M. R. Abuturab, Single-channel color information security system using LU decomposition in gyrator transform domains, *Optics Communications*, 323, 100-109 (2014).
DOI: <https://doi.org/10.1016/j.optcom.2014.02.061>
Publisher: Elsevier, Netherlands, 2022 Impact Factor: 2.4, Indexed in SCIE, Q index: Q2, Category: Atomic and Molecular Physics, and Optics
- 13.** M. R. Abuturab, An asymmetric color image cryptosystem based on Schur decomposition in gyrator transform domains, *Optics and Lasers in Engineering*, 58, 39-47(2014).
DOI: <https://doi.org/10.1016/j.optlaseng.2014.01.023>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE, Q index: Q1, Category: Atomic and Molecular Physics, and Optics
- 12.** M. R. Abuturab, Color information verification system based on singular value decomposition in gyrator transform domains, *Optics and Lasers in Engineering*, 57, 13-19 (2014).
DOI: <https://doi.org/10.1016/j.optlaseng.2014.01.006>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE, Q index: Q1, Category: Atomic and Molecular Physics, and Optics
- 11.** M. R. Abuturab, Securing multiple color information by optical coherent superposition based spiral phase encoding, *Optics and Lasers in Engineering*, 56, 152-163 (2014).
DOI: <https://doi.org/10.1016/j.optlaseng.2013.12.018>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE, Q index: Q1, Category: Atomic and Molecular Physics, and Optics
- 10.** M. R. Abuturab, Information Authentication system using interference of two beams in gyrator transform domain, *Applied Optics*, 52, 5133-5142 (2013).
DOI: <https://doi.org/10.1364/AO.52.005133>
Publisher: Optica Publishing Group, USA, 2022 Impact Factor: 1.9, Indexed in SCIE, Q index: Q2, Category: Atomic and Molecular Physics, and Optics

9. M. R. Abuturab, Security enhancement of color image cryptosystem by optical interference principle and spiral phase encoding, *Applied Optics*, 52, 1555-1563 (2013).
DOI: <https://doi.org/10.1364/AO.52.001555>
Publisher: Optica Publishing Group, USA, 2022 Impact Factor: 1.9, Indexed in SCIE,
Q index: Q2, Category: Atomic and Molecular Physics, and Optics
8. M. R. Abuturab, Noise-free recovery of color information using a joint-extended gyration transform correlator, *Optics and Lasers in Engineering*, 51, 230-239 (2013).
DOI: <https://doi.org/10.1016/j.optlaseng.2012.10.007>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE,
Q index: Q1, Category: Atomic and Molecular Physics, and Optics
7. M. R. Abuturab, Color image security system based on discrete Hartley transform in gyration transform domain, *Optics and Lasers in Engineering*, 51, 317-324 (2013).
DOI: <https://doi.org/10.1016/j.optlaseng.2012.09.008>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE,
Q index: Q1, Category: Atomic and Molecular Physics, and Optics
6. M. R. Abuturab, Color information security system using Arnold transform and double structured phase encoding in gyration transform domain, *Optics & Laser Technology*, 45, 525-532 (2013).
DOI: <https://doi.org/10.1016/j.optlastec.2012.05.037>
Publisher: Elsevier, UK, 2022 Impact Factor: 5, Indexed in SCIE,
Q index: Q1, Category: Atomic and Molecular Physics, and Optics
5. M. R. Abuturab, Color information cryptosystem based on optical superposition principle and phase-truncated gyration transform, *Applied Optics*, 51, 7994-8002 (2012).
DOI: <https://doi.org/10.1364/AO.51.007994>
Publisher: Optica Publishing Group, USA, 2022 Impact Factor: 1.9, Indexed in SCIE,
Q index: Q2, Category: Atomic and Molecular Physics, and Optics
4. M. R. Abuturab, Securing color image using discrete cosine transform in gyration transform domain structured-phase encoding, *Optics and Lasers in Engineering*, 50, 1383-1390 (2012).
DOI: <https://doi.org/10.1016/j.optlaseng.2012.04.011>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE,
Q index: Q1, Category: Atomic and Molecular Physics, and Optics
3. M. R. Abuturab, Color information security system using discrete cosine transform in gyration transform domain radial-Hilbert phase encoding, *Optics and Lasers in Engineering*, 50, 1209-1216 (2012).
DOI: <https://doi.org/10.1016/j.optlaseng.2012.03.020>
Publisher: Elsevier, UK, 2022 Impact Factor: 4.6, Indexed in SCIE,
Q index: Q1, Category: Atomic and Molecular Physics, and Optics

2. M. R. Abuturab, Securing color information using Arnold transform in gyrator transform domain, *Optics and Lasers in Engineering*, 50, 772-779 (2012).
DOI: <https://doi.org/10.1016/j.optlaseng.2011.12.006>
Publisher: Elsevier, UK, **2022 Impact Factor: 4.6**, Indexed in **SCIE**,
Q index: **Q1**, Category: **Atomic and Molecular Physics, and Optics**
One of the most-cited papers of Optics and Lasers in Engineering in 2015

1. M. R. Abuturab, Color image security system using double random-structured phase encoding in gyrator transform domain, *Applied Optics*, 51, 3006-3016 (2012).
DOI: <https://doi.org/10.1364/AO.51.003006>
Publisher: Optica Publishing Group, USA, **2022 Impact Factor: 1.9**,
Indexed in **SCIE**,
Q index: **Q2**, Category: **Atomic and Molecular Physics, and Optics**
Figure from the article was selected to appear on the cover page of Applied Optics on 20 May 2012
Link: <https://www.osapublishing.org/ao/issue.cfm?volume=51&issue=15>

BOOK CHAPTERS

2. M. R. Abuturab, Optical information cryptosystem based on structured phase encoding
Book Title: Recent Advances in Image security Technologies
Book Subtitle: Intelligent Image, Signal, and Video Processing
Editor: Hang Chen and Zhengjun Liu
Chapter: 1, Page: 1-31
Online ISBN: 978-3-031-22809-4
Print ISBN: 978-3-031-22808-7
Publisher: Springer, Cham, Switzerland AG, 2023
DOI: https://doi.org/10.1007/978-3-031-22809-4_1

1. M. R. Abuturab, Optical information security systems based on a gyrator wavelet transform
Book Title: Advanced Secure Optical Image Processing for Communications
Editor: Ayman Al Falou
Chapter: 1, Page: 1-39
Online ISBN: 978-0-7503-1457-2
Print ISBN: 978-0-7503-1455-8
Publisher: IOP Publishing, Bristol, UK, 2018
DOI: <https://doi.org/10.1088/978-0-7503-1457-2ch1>

DETAILS OF
CONFERENCE/
SEMINAR /WORKSHOP/
FDP (ATTENDED/
PRESENTED)

CONFERENCE PROCEEDINGS

5. M. R. Abuturab and A. Alfalou, Coherent superposition based single-channel color image encryption using gamma distribution and biometric phase keys, *Pattern Recognition and Tracking XXXII, Proceedings of SPIE*, (Gaylord Palms Resort & Convention Center Orlando, Florida, USA) 2021.
DOI: <https://doi.org/10.1117/12.2586814>

4. M. R. Abuturab, Single-channel color image cryptosystem using chaotic structured phase encoding, International Conference on Emerging Frontiers in Electrical and Electronic Technologies, (ICEFEET 2020), **IEEE Conference Proceedings**, 2020.
DOI: <https://doi.org/10.1109/ICEFEET49149.2020.9186952>
3. M. R. Abuturab, Multiple color image fusion and encryption using discrete wavelet transform and Yang-Gu mixture amplitude-phase retrieval algorithm in fractional Fourier domain, 4th International Conference on Soft Computing: Theories and Applications (SoCTA 2019), **Proceedings of SoCTA**, Advances in Intelligent Systems and Computing, Springer, 2019.
DOI: https://doi.org/10.1007/978-981-15-4032-5_67
2. M. R. Abuturab, Multiple color-image fusion and watermarking based on discrete wavelet transform and Yang-Gu mixture amplitude-phase retrieval algorithm in Fresnel transform domain, International Conference on Electrical, Electronics and Computer Engineering (UPCON 2019), **IEEE Conference Proceedings**, 2019.
DOI: <https://doi.org/10.1109/UPCON47278.2019.8980015>
1. M. R. Abuturab, Color image cryptosystem based on discrete cosine transform in gyator transform domain spiral-phase encoding, [Invited], International Conference on Optics in Precision Engineering and Nanotechnology (icOPEN 2013) at Singapore Expo, Singapore, **Proceedings of SPIE** Vol. 8769, 2013.
DOI: <https://doi.org/10.1117/12.2018897>

DETAILS OF
SUPERVISION
(M.PHIL/M.TECH/P.HD.)

M.TECH.

Name of candidate: Md. Isteyaque Ashraf
Title: Recent developments in the theory of Fourier transform in the framework of optical communication
Institute: Bengal Institute of Technology & Management, Santiniketan, West Bengal, India.
Awarded: May 2014
Previous Affiliation: Assistant Professor (Guest),
 Department of Electronics & Communications Engineering,
 Purnea Engineering College, Purnea, India.

PH.D.

Name of candidate: Tajuddin Ali Ahmad,
Title: Investigations on digital color image encryption schemes,
University: BRA Bihar University, Muzaffarpur, India.
Awarded: April 2015
Present Affiliation: Assistant Professor (Grade-I),
 Department of Electronics & Communications Engineering,
 Maulana Azad College of Engineering and Technology, Patna, India.

PROFESSIONAL
MEMBERSHIPS

- **Optical Society of America (USA),**
Senior member (OSA ID: 1033760)
 - **Society of Photo-Optical Instrumentation Engineers (USA)**
Senior member (SPIE ID: 3481366)
-

PROFESSIONAL
ACTIVITIES

LEAD GUEST EDITOR FOR SPECIAL ISSUE

- Security and Communication Networks (2021 Impact Factor: 1.791)
- International Journal of Optics (2022 Impact Factor: 1.7)

REVIEWER OF INTERNATIONAL JOURNALS

[Nature, IEEE, IET, Optical Society of America (OSA)/Optica, Elsevier, Institute of Physics (IOP), Springer, Wiley, Society of Photo-Optical Instrumentation Engineers (SPIE), Taylor & Francis, Hindawi Ltd., PeerJ Inc., and Multidisciplinary Digital Publishing Institute (MDPI)]

1. Scientific Reports, Nature, UK
 2. IEEE Photonics Journal, IEEE, USA
 3. IEEE Access, IEEE, USA
 4. IEEE Sensor, IEEE, USA
 5. IET Image Processing, IET, UK
 6. Optics Letters, Optica (formerly OSA), USA
 7. Optical Express, Optica (formerly OSA), USA
 8. Applied Optics, Optica (formerly OSA), USA
 9. JOS A, Optica (formerly OSA), USA
 10. Chinese Optics Letters, CLP/Optica (formerly OSA), China
 11. Journal of Optics, IOP, UK
 12. Optical Engineering, SPIE, USA
 13. Optics and Lasers in Engineering, Elsevier, UK
 14. Optics Communications, Elsevier, Netherlands
 15. Optics and Lasers in Technology, Elsevier, UK
 16. Signal Processing, Elsevier, UK
 17. Physics Letter A, Elsevier, UK
 18. Computers and Electrical Engineering, Elsevier, UK
 19. Optik, Elsevier, UK
 20. Engineering Science and Technology, an International Journal, Elsevier, UK
 21. Journal of King Saud University - Computer and Information Sciences, Elsevier, UK
 22. Optical and Quantum Electronics, Springer, Germany
 23. 3D Research, Springer, Germany
 24. Journal of Optics, Springer, India
 25. The Visual Computer, Springer, Germany
 26. Spectroscopy Letters, Taylor & Francis, UK
 27. Journal of Experimental & Theoretical Artificial Intelligence, Taylor & Francis, UK
 28. Engineering Reports, John Wiley & Sons Ltd., USA
 29. Physica Scripta, IOP, UK
 30. Journal of Electrical and Computer Engineering, Hindawi Ltd., UK
 31. International Journal of Digital Multimedia Broadcasting, Hindawi Ltd., UK
 32. PeerJ Computer Science, PeerJ, Inc. USA
 33. Engineering Research Express, IOP, UK
 34. Concurrency and Computation: Practice and Experience, John Wiley & Sons Ltd., USA
 35. Inverse Problems, IOP, UK
-

36. Journal of Sensors, Hindawi Ltd., UK
37. Journal of Ambient Intelligence and Humanized Computing, Springer Nature, Germany
38. Applied Mathematics in Science and Engineering, Taylor & Francis, UK
39. Karbala International Journal of Modern Science, Elsevier, UK
40. International Journal of Mathematics and Mathematical Sciences, Hindawi Ltd., UK
41. Malaysian Journal of Mathematical Sciences, UPM, Malaysia
42. Entropy, MDPI (Multidisciplinary Digital Publishing Institute), Switzerland
43. Mathematics, MDPI (Multidisciplinary Digital Publishing Institute), Switzerland
44. Applied Sciences, MDPI (Multidisciplinary Digital Publishing Institute), Switzerland
45. Information, MDPI (Multidisciplinary Digital Publishing Institute), Switzerland
46. Sensors, MDPI (Multidisciplinary Digital Publishing Institute), Switzerland
47. Optics Continuum, Optica (formerly OSA), USA
48. Applied Physics B, Springer-Verlag GmbH Germany
49. Journal of Systems Architecture, Elsevier, UK
50. Complexity, Wiley, USA

ACHIVEMENTS

FIGURES AMONG WORLD'S TOP 2% SCIENTISTS

in the **CAREER-LONG IMPACT DATABASE**

(which provides a measure of long-term performance) and

SINGLE YEAR IMPACT DATABASE

(which provides a measure of single-year performance) in the

field of **OPTOELECTRONICS & PHOTONICS** released by **STANFORD UNIVERSITY** for the **FOURTH CONSECUTIVE YEAR** (2020, 2021, 2022, 2023) with **top % Less than 1%**

Link: <https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6>

RANKING AMONG WORLD'S TOP 2% SCIENTISTS IN INDIA

2023

Rank 4 in subfield-1 Optoelectronics & Photonics

Rank 2 in subfield-1 Optoelectronics & Photonics and subfield-2 Optics

2022

Rank 4 in subfield-1 Optoelectronics & Photonics

Rank 1 in subfield-1 Optoelectronics & Photonics and subfield-2 Optics

2021

Rank 3 in subfield-1 Optoelectronics & Photonics

Rank 2 in subfield-1 Optoelectronics & Photonics and subfield-2 Optics

2020

Rank 3 in subfield-1 Optoelectronics & Photonics

Rank 1 in subfield-1 Optoelectronics & Photonics and subfield-2 Optics

Date: 30-01-2024

Place: Hyderabad

محمد رفیق ابوتراب

Muhammad Rafiq Abuturab

[Last update on 30 /01/ 2024]