Web of Science™

Web of Science publications of JNU staff and students for the month April 2025

Record 1 of 33

Title: Analysing Kazakhstan's Foreign Poliy Regime Neo-Eurasianism in The Nazarbayev Era

Author(s): Bharti, P (Bharti, Pranveer)

Source: CENTRAL ASIAN SURVEY **DOI:** 10.1080/02634937.2025.2478077 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 3

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 1

Usage Count (Since 2013): 1

Cited References: Bassin M., 2003, Ab Imperio
Laruelle Marlene., 2008, Russian Eurasianism: An Ideology of Empire

Cited Reference Count: 2

Accession Number: WOS:001462398600001

Language: English

Document Type: Book Review; Early Access

Addresses: [Bharti, Pranveer] Jawaharlal Nehru Univ, Ctr Russian & Cent Asian Studies, New Delhi, India.

Corresponding Address: Bharti, P (corresponding author), Jawaharlal Nehru Univ, Ctr Russian & Cent Asian Studies, New Delhi, India.

E-mail Addresses: pranv5898@gmail.com

Affiliations: Jawaharlal Nehru University, New Delhi

Publisher: ROUTLEDGE JOURNALS, TAYLOR & FRANCIS LTD

Publisher Address: 2-4 PARK SQUARE, MILTON PARK, ABINGDON OX14 4RN, OXON, ENGLAND

Web of Science Index: Social Science Citation Index (SSCI)

Web of Science Categories: Area Studies

Research Areas: Area Studies

IDS Number: 1DL3C

ISSN: 0263-4937

eISSN: 1465-3354

29-char Source Abbrev.: CENT ASIAN SURV

ISO Source Abbrev.: Cent. Asian Surv.

Source Item Page Count: 3

Output Date: 2025-05-06

Record 2 of 33

Title: A History of India Through 75 Objects

Author(s): Mahalakshmi, R (Mahalakshmi, R.)

Source: MEDIEVAL HISTORY JOURNAL **DOI:** 10.1177/09719458251329666 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 3

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Champakalakshmi R., 1996, Trade, Ideology and Urbanization: South India 300 BC to AD 1300

Cited Reference Count: 1

Accession Number: WOS:001465230800001

Language: English

Document Type: Book Review; Early Access

Addresses: [Mahalakshmi, R.] Jawaharlal Nehru Univ, Ctr Hist Studies, New Delhi, India.

Corresponding Address: Mahalakshmi, R (corresponding author), Jawaharlal Nehru Univ, Ctr Hist Studies, New Delhi, India.

E-mail Addresses: rmahalakshmi@jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi

Publisher: SAGE PUBLICATIONS INC

Publisher Address: 2455 TELLER RD, THOUSAND OAKS, CA 91320 USA

Web of Science Index: Arts & Humanities Citation Index (A&HCI)

Web of Science Categories: Medieval & Renaissance Studies

Research Areas: Arts & Humanities - Other Topics

IDS Number: 1HP9G

ISSN: 0971-9458

eISSN: 0973-0753

29-char Source Abbrev.: MEDIEV HIST J

ISO Source Abbrev.: Mediev. Hist. J.

Source Item Page Count: 5

Output Date: 2025-05-06

Record 3 of 33

Title: Graph convolutional network for structural equivalent key nodes identification in complex networks

Author(s): Patel, A (Patel, Asmita); Singh, B (Singh, Buddha)

Source: CHAOS SOLITONS & FRACTALS **Volume:** 196 **Article Number:** 116376 **DOI:** 10.1016/j.chaos.2025.116376 **Early Access Date:** APR 2025 **Published Date:** 2025 JUL

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 5

Usage Count (Since 2013): 5

Cited References: Bag S, 2019, INFORM SCIENCES, V483, P53, DOI 10.1016/j.ins.2019.01.023
Chen LY, 2024, INFORM PROCESS MANAG, V61, DOI 10.1016/j.ipm.2024.103775
Cooper I, 2020, CHAOS SOLITON FRACT, V139, DOI 10.1016/j.chaos.2020.110057
Delling D, 2014, P 2 ACM C ONL SOC NE, P37, DOI DOI 10.1145/2660460.2660465

ERDOS P, 1960, B INT STATIST INST, V38, P343
Fatemi B, 2022, EXPERT SYST APPL, V202, DOI 10.1016/j.eswa.2022.117053
Grover A, 2016, KDD'16: PROCEEDINGS OF THE 22ND ACM SIGKDD INTERNATIONAL CONFERENCE ON KNOWLEDGE DISCOVERY AND DATA MINING, P855, DOI 10.1145/2939672.2939754
Hajarathaiah K, 2024, IEEE ACCESS, V12, P10186, DOI 10.1109/ACCESS.2024.3355096
He MS, 2021, SYMMETRY-BASEL, V13, DOI 10.3390/sym13060964
He MS, 2021, SECUR COMMUN NETW, V2021, DOI 10.1155/2021/6659022
Kitsak M, 2010, NAT PHYS, V6, P888, DOI [10.1038/NPHYS1746, 10.1038/nphys1746]
KNIGHT WR, 1966, J AM STAT ASSOC, V61, P436, DOI 10.2307/2282833
Kourtellis N, 2013, SOC NETW ANAL MIN, V3, P899, DOI 10.1007/s13278-012-0076-6
Kumar R, 2021, INT J PATTERN RECOGN, V35, DOI 10.1142/S0218001421570044
Kunegis J, 2013, PROCEEDINGS OF THE 22ND INTERNATIONAL CONFERENCE ON WORLD WIDE WEB (WWW'13 COMPANION), P1343
Leskovec J., 2006, ACM Trans. Knowl. Discov. Data, P228, DOI 10.1145/1134707.1134732
Leskovec J., 2014, SNAP Datasets: Stanford large network dataset collection
Li YQ, 2024, INFORM PROCESS MANAG, V61, DOI 10.1016/j.ipm.2024.103681
Ma XK, 2018, PHYSICA A, V496, P121, DOI 10.1016/j.physa.2017.12.092
Ma XK, 2017, IEEE T KNOWL DATA EN, V29, P1045, DOI 10.1109/TKDE.2017.2657752
Maharani W, 2014, 2014 8TH INTERNATIONAL CONFERENCE ON TELECOMMUNICATION SYSTEMS SERVICES AND APPLICATIONS (TSSA)
Maji G, 2020, EXPERT SYST APPL, V161, DOI 10.1016/j.eswa.2020.113681
Mikolov T, 2013, Arxiv, DOI [arXiv:1301.3781, DOI 10.48550/ARXIV.1301.3781]
Pastor-Satorras R, 2017, PHYS REV E, V95, DOI 10.1103/PhysRevE.95.022301
Perozzi B, 2014, PROCEEDINGS OF THE 20TH ACM SIGKDD INTERNATIONAL CONFERENCE ON KNOWLEDGE DISCOVERY AND DATA MINING (KDD'14), P701, DOI 10.1145/2623330.2623732
Ribeiro LFR, 2017, KDD'17: PROCEEDINGS OF THE 23RD ACM SIGKDD INTERNATIONAL CONFERENCE ON KNOWLEDGE DISCOVERY AND DATA MINING, P385, DOI 10.1145/3097983.3098061
Rodrigues FA, 2019, NONLIN SYST COMPLEX, V22, P177, DOI 10.1007/978-3-319-78512-7_10
Rual JF, 2005, NATURE, V437, P1173, DOI 10.1038/nature04209
Turki T, 2023, GENE, V853, DOI 10.1016/j.gene.2022.147038
van den Berg R, 2017, Arxiv, DOI arXiv:1706.02263
Waibel Alexander, 2013, BACKPROPAGATION, P35
Wang JP, 2024, CHAOS SOLITON FRACT, V185, DOI 10.1016/j.chaos.2024.115159
Wang Mihang, 2022, Interdisciplinary Research for Printing and Packaging. Lecture Notes in Electrical Engineering (896), P99, DOI 10.1007/978-981-19-1673-1_17
Wen T, 2020, INFORM SCIENCES, V512, P549, DOI 10.1016/j.ins.2019.10.003
Wen XX, 2018, PHYSICA A, V506, P11, DOI 10.1016/j.physa.2018.03.076
Xiao Y., 2024, IEEE Access
Xie M, 2023, INFORM PROCESS MANAG, V60, DOI 10.1016/j.ipm.2022.103161
Yang D, 2023, IEEE T NETW SCI ENG, V10, P1846, DOI 10.1109/TNSE.2023.3236028
Yu EY, 2020, KNOWL-BASED SYST, V198, DOI 10.1016/j.knosys.2020.105893
Zeng YJ, 2023, Arxiv, DOI arXiv:2307.05841
Zhan MM, 2022, MULTIMED TOOLS APPL, V81, P34183, DOI 10.1007/s11042-020-09984-2
Zhang HP, 2023, IEEE ACCESS, V11, P128175, DOI 10.1109/ACCESS.2023.3332167
Zhang K, 2023, J KING SAUD UNIV-COM, V35, DOI 10.1016/j.jksuci.2023.101798
Zhang MH, 2018, ADV NEUR IN, V31
Zhao GH, 2020, NEUROCOMPUTING, V414, P18, DOI 10.1016/j.neucom.2020.07.028
Zhao L, 2023, APPL SCI-BASEL, V13, DOI 10.3390/app13148303
Zhao N, 2024, APPL SCI-BASEL, V14, DOI 10.3390/app14020521

Cited Reference Count: 47

Abstract: Identifying key influential nodes in complex networks is crucial for applications such as social network analysis, epidemiology, and recommendation systems. This paper proposes SE_GCN (Structural Equivalence with Graph Convolutional Network), a method that combines structural equivalence with Graph Convolutional Networks (GCNs) to identify key nodes in complex networks. SE_GCN leverages structural similarities among nodes at various hop distances to construct a comprehensive feature matrix, which is directly used for node embedding. GCNs are employed to process this feature matrix, learning effective representations of nodes within the network. The fully connected layer of SE_GCN computes the embedded score of each node, and a sigmoid function predicts the influential probabilities of nodes. The performance of SE_GCN is evaluated by comparing it with the Susceptible-Infected-Recovered (SIR) epidemiological model, Kendall's tau correlation, and Jaccard similarity. The proposed method is assessed using baseline methods in terms of infection rate, seed set size, correlation coefficient, and similarity index across several synthetic and real-world networks. The results demonstrate that SE_GCN outperforms existing methods, highlighting its effectiveness and robustness in identifying influential nodes.

Accession Number: WOS:001461785800001

Language: English

Document Type: Article

Author Keywords: Influential nodes; Structural equivalence; Graph convolutional network (GCN); Complex network

Addresses: [Patel, Asmita; Singh, Buddha] Jawaharlal Nehru Univ, Sch Comp Syst Sci, New Delhi 110067, India.

Corresponding Address: Patel, A; Singh, B (corresponding author), Jawaharlal Nehru Univ, Sch Comp Syst Sci, New Delhi 110067, India.

E-mail Addresses: asmita56_scs@jnu.ac.in; buddhasingh@mail.jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi

Publisher: PERGAMON-ELSEVIER SCIENCE LTD

Publisher Address: THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Mathematics, Interdisciplinary Applications; Physics, Multidisciplinary; Physics, Mathematical

Research Areas: Mathematics; Physics

IDS Number: 1CN7S

ISSN: 0960-0779

eISSN: 1873-2887

29-char Source Abbrev.: CHAOS SOLITON FRACT

ISO Source Abbrev.: Chaos Solitons Fractals

Source Item Page Count: 13

Output Date: 2025-05-06

Record 4 of 33

Title: A Review of Jammu Kashmir & Ladakh Through the Ages: A Visual Narrative of Continuity & Linkages

Author(s): Tiwari, H (Tiwari, Heeraman)

Source: INDIAN HISTORICAL REVIEW **DOI:** 10.1177/03769836251334010 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 16

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Tanwar Raghuvendra, 2024, A Review ofJammu Kashmir & Ladakh Through the Ages: A Visual Narrative of Continuity & Linkages

Cited Reference Count: 1

Accession Number: WOS:001469840200001

Language: English

Document Type: Book Review; Early Access

Addresses: [Tiwari, Heeraman] Jawaharlal Nehru Univ, Ctr Hist Studies, Sch Social Sci, New Delhi, India.

Corresponding Address: Tiwari, H (corresponding author), Jawaharlal Nehru Univ, Ctr Hist Studies, Sch Social Sci, New Delhi, India.

Affiliations: Jawaharlal Nehru University, New Delhi

Publisher: SAGE PUBLICATIONS INDIA PVT LTD

Publisher Address: B-1-I-1 MOHAN CO-OPERATIVE INDUSTRIAL AREA, MATHURA RD, POST BAG NO 7, NEW DELHI 110 044, INDIA

Web of Science Index: Arts & Humanities Citation Index (A&HCI)

Web of Science Categories: History; Asian Studies

Research Areas: History; Asian Studies

IDS Number: 1OK6C

ISSN: 0376-9836

eISSN: 0975-5977

29-char Source Abbrev.: INDIAN HIST REV

ISO Source Abbrev.: Indian Hist. Rev.

Source Item Page Count: 3

Output Date: 2025-05-06

Record 5 of 33

Title: Petri nets-based approach for frequent pattern mining in market basket analysis

Author(s): Jangid, R (Jangid, Riddhi); Singh, GP (Singh, Gajendra Pratap)

Source: ANNALS OF OPERATIONS RESEARCH **DOI:** 10.1007/s10479-025-06559-y **Early Access Date:** APR 2025 **Published Date:** 2025 APR 16

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Aggarwal Charu C., 2014, Frequent pattern mining
Alawadh MM., 2022, Journal on Big Data, DOI [10.32604/jbd.2022.021744, DOI 10.32604/JBD.2022.021744]
Chee CH, 2019, ARTIF INTELL REV, V52, P2603, DOI 10.1007/s10462-018-9629-z
Chen YL, 2005, DECIS SUPPORT SYST, V40, P339, DOI 10.1016/j.dss.2004.04.009

Han JW, 2007, DATA MIN KNOWL DISC, V15, P55, DOI 10.1007/s10618-006-0059-1
Jangid R, 2023, INT J SYST ASSUR ENG, V14, P256, DOI 10.1007/s13198-022-01849-1
Kansal S., 2015, International Journal of Computer Applications, V975, P8887
Kansal S., 2012, Petri nets-Manufacturing and Computer Science, P381
MURATA T, 1989, P IEEE, V77, P541, DOI 10.1109/5.24143
Peterson J. L., 1981, PETRI NET THEORY MOD
Raeder T, 2011, SOC NETW ANAL MIN, V1, P97, DOI 10.1007/s13278-010-0003-7
Singh Gajendra Pratap, 2021, Mathematical Modeling, Computational Intelligence Techniques and Renewable Energy. Proceedings of the First International Conference, MMCITRE 2020. Advances in Intelligent Systems and Computing (AISC 1287), P437, DOI 10.1007/978-981-15-9953-8_38
Singh GP., 2013, International Journal of Computer Applications, V73, P1, DOI [10.5120/12830-0245, DOI 10.5120/12830-0245]
Singh GP., 2013, International Journal of Computer Applications, DOI [10.5120/13013-0316, DOI 10.5120/13013-0316]
Singh SK, 2023, INT J SYST ASSUR ENG, V14, P919, DOI 10.1007/s13198-023-01892-6
Sjarif Nilam Nur Amir, 2021, International Journal of Business Intelligence and Data Mining, V18, P383, DOI 10.1504/IJBIDM.2021.114475
Steggles LJ, 2006, LECT NOTES COMPUT SC, V4210, P127
Ünvan YA, 2021, COMMUN STAT-THEOR M, V50, P1615, DOI 10.1080/03610926.2020.1716255
Valle MA, 2018, EXPERT SYST APPL, V97, P146, DOI 10.1016/j.eswa.2017.12.028

Cited Reference Count: 19

Abstract: Petri net (PN) is a mathematical modeling tool for representing and analyzing discrete-event dynamic systems. Applying PNs in managerial decision-making contributes to studying the systems dynamics, performance characteristics, and resource utilization. It is previously known that Boolean Petri nets (BPNs) generate all 2k\documentclass[12pt]{minimal} \usepackage{amsmath} \usepackage{wasysym} \usepackage{amsfonts} \usepackage{amssymb} \usepackage{amsbsy} \usepackage{mathrsfs} \usepackage{upgreek} \setlength{\oddsidemargin}{-69pt} \begin{document}$$2<^>k$$\end{document} binary vectors in their reachability analysis that are used to study safe systems. In this article, the concept of reachability tree for a defined class of BPNs is used to merge the marking nodes by proving its homomorphism with a graph isomorphic to the multidimensional hypercube network topology. Using this approach, we apply the model in frequent pattern mining to find the association rules in the Market Basket Analysis (MBA) Problem. MBA is extensively studied using Apriori, FP Growth and ECLAT algorithms but it scans the databases multiple times for generating association rules. The reachability-based approach followed here uses the idea from these algorithms and is implemented in the defined BPN model. This suggests the use of reachability in solving the problem does not require multiple data scans. This approach with reachability is novel and helps in understanding customer behavior and transactional patterns.

Accession Number: WOS:001468271700001

Language: English

Document Type: Article; Early Access

Author Keywords: Association rules; Frequent pattern mining; Petri nets; Reachability

Addresses: [Jangid, Riddhi; Singh, Gajendra Pratap] Jawaharlal Nehru Univ, Sch Computat & Integrat Sci, New Delhi 110067, Delhi, India.

Corresponding Address: Singh, GP (corresponding author), Jawaharlal Nehru Univ, Sch Computat & Integrat Sci, New Delhi 110067, Delhi, India.

E-mail Addresses: riddhi40_sit@jnu.ac.in; gajendra@jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi

Publisher: SPRINGER

Publisher Address: VAN GODEWIJCKSTRAAT 30, 3311 GZ DORDRECHT, NETHERLANDS

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)
Web of Science Categories: Operations Research & Management Science
Research Areas: Operations Research & Management Science
IDS Number: 1MC4L
ISSN: 0254-5330
eISSN: 1572-9338
29-char Source Abbrev.: ANN OPER RES
ISO Source Abbrev.: Ann. Oper. Res.
Source Item Page Count: 13
Funding:

Funding Agency	Grant Number
Indian Council of Medical Research	

The authors are expressing their deep gratitude to anonymous reviewers, and editors for their valuable suggestions and comments.

Output Date: 2025-05-06

Record 6 of 33

Title: Nicotiana benthamiana anti-silencing function-1 mediated chromatin modulation during geminivirus infection

Author(s): Sultana, S (Sultana, Shirin); Chakraborty, S (Chakraborty, Supriya)
Source: PHYSIOLOGY AND MOLECULAR BIOLOGY OF PLANTS **DOI:** 10.1007/s12298-025-01580-8 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 6
Times Cited in Web of Science Core Collection: 0
Total Times Cited: 0
Usage Count (Last 180 days): 2
Usage Count (Since 2013): 2

Cited References: Ceniceros-Ojeda EA, 2016, J VIROL, V90, P3828, DOI 10.1128/JVI.02385-15
Campos EI, 2010, NAT STRUCT MOL BIOL, V17, P1343, DOI 10.1038/nsmb.1911
Chiu YF, 2013, CELL HOST MICROBE, V14, P607, DOI 10.1016/j.chom.2013.11.009
Dellaporta SL., 1983, Plant Molecul Biol Rep, V1, P19, DOI [10.1007/BF02712670, DOI 10.1007/BF02712670]
English CM, 2006, CELL, V127, P495, DOI 10.1016/j.cell.2006.08.047
Huang HD, 2016, NAT COMMUN, V7, DOI 10.1038/ncomms12707
Kawase H, 1996, NAP-I is a functional homologue of TAF-I that is required for replication and transcription of the adenovirus genome in a chromatin-like structure
Kumar RV, 2015, J GEN VIROL, V96, P3143, DOI 10.1099/jgv.0.000254
Lee KY, 2017, MOL CELL, V68, P61, DOI 10.1016/j.molcel.2017.08.021
Liu XJ, 2020, CELL DEATH DIS, V11, DOI 10.1038/s41419-020-02872-5
Livak KJ, 2001, METHODS, V25, P402, DOI 10.1006/meth.2001.1262
Mei YZ, 2024, PLANT COMMUN, V5, DOI 10.1016/j.xplc.2023.100788
Oh J, 2012, J VIROL, V86, P12313, DOI 10.1128/JVI.01570-12
Okuwaki M, 2001, J MOL BIOL, V311, P41, DOI 10.1006/jmbi.2001.4812
Okuwaki M, 1998, J BIOL CHEM, V273, P34511, DOI 10.1074/jbc.273.51.34511
Peng H, 2010, P NATL ACAD SCI USA, V107, P2461, DOI 10.1073/pnas.0911128107

Pilartz M, 2003, J VIROL, V77, P10808, DOI 10.1128/JVI.77.20.10808-10818.2003
Rai TS, 2017, NUCLEIC ACIDS RES, V45, P11673, DOI 10.1093/nar/gkx771
Richter KS, 2016, VIROLOGY, V493, P113, DOI 10.1016/j.virol.2016.03.014
Samad MA, 2007, FEBS LETT, V581, P3283, DOI 10.1016/j.febslet.2007.06.024
Sanematsu F, 2006, J BIOL CHEM, V281, P13817, DOI 10.1074/jbc.M511590200
Schreiner S, 2010, J VIROL, V84, P7029, DOI 10.1128/JVI.00074-10
Suyal G, 2013, ARCH VIROL, V158, P1931, DOI 10.1007/s00705-013-1675-x
Tamura K, 2021, MOL BIOL EVOL, V38, P3022, DOI 10.1093/molbev/msab120
Tsai K, 2014, J VIROL, V88, P14350, DOI 10.1128/JVI.01895-14
Wang XM, 2021, EPIGENET CHROMATIN, V14, DOI 10.1186/s13072-021-00430-7
Wu MY, 2017, NUCLEIC ACIDS RES, V45, P8225, DOI 10.1093/nar/gkx422
Zhong ZH, 2022, NAT COMMUN, V13, DOI 10.1038/s41467-022-34648-0
Zhu Y, 2011, PLANT J, V66, P443, DOI 10.1111/j.1365-313X.2011.04504.x

Cited Reference Count: 29

Abstract: Histones are rapidly loaded onto the geminivirus genome upon entry into plant cells leading to the formation of a eukaryotic chromatin-like structure "minichromosome" that supports its replication and transcription but the underlying mechanism behind this process has not been fully defined. From a host-virus perspective, histone chaperones, a crucial component in regulating chromatin architecture are recognized as a potential determinant in animal virus infection and are well studied, but their possible involvement in plant virus pathogenesis has been unexplored. ASF1, a pivotal histone chaperone facilitates the deposition of histone H3 and H4 onto DNA, which is necessary for the formation of eukaryotic chromatin. Here, we report that overexpression of specific histone chaperones (HCs) NbASF1A and NbASF1B genes facilitate the deposition of histone onto incoming virus DNA preventing its accessibility for both DNA synthesis and transcription machinery and this approach efficiently limits the development of geminivirus related disease symptoms progression. Conversely, the knockdown of both NbASF1A and NbASF1B enhances virus accumulation and disease progression and this process is supported by the Radiation sensitive protein 51 (RAD51) of Homologous recombination repair (HRR) pathway. This study presents a novel finding about HCs NbASF1A and NbASF1B conferring robust antiviral defence against geminiviruses.

Accession Number: WOS:001459909500001

Language: English

Document Type: Article; Early Access

Author Keywords: Histone chaperones; Geminiviruses; Plant defence; <italic>N. benthamiana ASF1</italic>; Nucleosome assembly; Virus minichromosomes

KeyWords Plus: HISTONE CHAPERONE ASF1; DNA-REPLICATION; NUCLEOLAR PROTEIN; NUCLEOPHOSMIN/B23; POPULATIONS; H3.3; DAXX

Addresses: [Sultana, Shirin; Chakraborty, Supriya] Jawaharlal Nehru Univ, Sch Life Sci, Mol Virol Lab, New Delhi 110067, India.

Corresponding Address: Chakraborty, S (corresponding author), Jawaharlal Nehru Univ, Sch Life Sci, Mol Virol Lab, New Delhi 110067, India.

E-mail Addresses: supriyachakrasls@yahoo.com

Affiliations: Jawaharlal Nehru University, New Delhi

Publisher: SPRINGER

Publisher Address: ONE NEW YORK PLAZA, SUITE 4600, NEW YORK, NY, UNITED STATES

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Plant Sciences

Research Areas: Plant Sciences

IDS Number: 0ZU1C

ISSN: 0971-5894
eISSN: 0974-0430
29-char Source Abbrev.: PHYSIOL MOL BIOL PLA
ISO Source Abbrev.: Physiol. Mol. Biol. Plants
Source Item Page Count: 16
Funding:

Funding Agency	Grant Number
Science and Engineering Research Board (SERB), Govt of India	CRG/2018/002658
Science and Engineering Research Board, Department of Science and Technology, Govt of India	BT/INF /22/SP45382/2022
Department of Biotechnology, Govt of India by DBT BUILDER program	
University Grant Commission, India	

We thank Dr. Sunil Kumar Mukherjee for his encouragement and insightful feedback on the study. This study was supported by the Science and Engineering Research Board, Department of Science and Technology, Govt of India (Grant No. CRG/2018/002658) and the Department of Biotechnology, Govt of India by DBT BUILDER program (Grant No. BT/INF/22/SP45382/2022). Shirin Sultana is thankful for the Junior Research Fellowship from the University Grant Commission, India.

Output Date: 2025-05-06

Record 7 of 33

Title: From perception to action: MAPKs in plant-virus interactions

Author(s): Kumar, S (Kumar, Sunil); Singh, D (Singh, Dhanraj); Chakraborty, S (Chakraborty, Supriya)

Source: PHYSIOLOGY AND MOLECULAR BIOLOGY OF PLANTS **DOI:** 10.1007/s12298-025-01575-5 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 4

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Aguilar E, 2017, VIROLOGY, V509, P178, DOI 10.1016/j.virol.2017.06.022
Alazem M, 2023, PLANT PHYSIOL, V192, P3088, DOI 10.1093/plphys/kiad255
Andreasson E, 2005, EMBO J, V24, P2579, DOI 10.1038/sj.emboj.7600737
Azevedo C, 2006, EMBO J, V25, P2007, DOI 10.1038/sj.emboj.7601084
Caplan JL, 2008, CELL, V132, P449, DOI 10.1016/j.cell.2007.12.031
Cardinale F, 2000, J BIOL CHEM, V275, P36734, DOI 10.1074/jbc.M007418200
Chinchilla D, 2007, NATURE, V448, P497, DOI 10.1038/nature05999
Chowdhury A, 2020, PLOS PATHOG, V16, DOI 10.1371/journal.ppat.1008754
Colcombet J, 2008, BIOCHEM J, V413, P217, DOI 10.1042/BJ20080625
Couto D, 2016, NAT REV IMMUNOL, V16, P537, DOI 10.1038/nri.2016.77
Devendrakumar KT, 2018, CELL MOL LIFE SCI, V75, P2981, DOI 10.1007/s00018-018-2839-3
Ding ZH, 2022, PLANT CELL, V34, P3110, DOI 10.1093/plcell/koac143
Dong SZ, 2022, TRENDS PARASITOL, V38, P54, DOI 10.1016/j.pt.2021.08.001
Feng LX, 2024, NAT COMMUN, V15, DOI 10.1038/s41467-024-54467-9
Gao ZY, 2022, NAT COMMUN, V13, DOI 10.1038/s41467-022-28395-5

Gassmann W, 2012, MOL PLANT MICROBE IN, V25, P862, DOI 10.1094/MPMI-01-12-0024-IA
Gómez-Gómez L, 2000, MOL CELL, V5, P1003, DOI 10.1016/S1097-2765(00)80265-8
Hamel LP, 2006, TRENDS PLANT SCI, V11, P192, DOI 10.1016/j.tplants.2006.02.007
He CZ, 1999, MOL PLANT MICROBE IN, V12, P1064, DOI 10.1094/MPMI.1999.12.12.1064
He L, 2021, BMC PLANT BIOL, V21, DOI 10.1186/s12870-021-02826-9
He RR, 2023, VIRUSES-BASEL, V15, DOI 10.3390/v15030744
Hu HC, 2024, CELL REP, V43, DOI 10.1016/j.celrep.2024.114959
Hu T, 2019, PLOS PATHOG, V15, DOI 10.1371/journal.ppat.1007728
Huh SU, 2015, SCI REP-UK, V5, DOI 10.1038/srep07981
Huh SU, 2012, PLANT SCI, V197, P50, DOI 10.1016/j.plantsci.2012.08.013
Hyodo K, 2017, P NATL ACAD SCI USA, V114, pE1282, DOI 10.1073/pnas.1610212114
Jin HL, 2002, DEV CELL, V3, P291, DOI 10.1016/S1534-5807(02)00205-8
Jin HL, 2003, PLANT J, V33, P719, DOI 10.1046/j.1365-313X.2003.01664.x
Jin RX, 2024, GENES-BASEL, V15, DOI 10.3390/genes15020184
Jones JDG, 2006, NATURE, V444, P323, DOI 10.1038/nature05286
Kanodia P, 2022, J VIROL, V96, DOI [10.1128/jvi.01815-21, 10.1128/JVI.01815-21]
Kim KJ, 2007, BIOCHEM BIOPH RES CO, V362, P554, DOI 10.1016/j.bbrc.2007.07.095
Komatsu K, 2010, MOL PLANT MICROBE IN, V23, P283, DOI 10.1094/MPMI-23-3-0283
Kumar S, 2023, ARCH VIROL, V168, DOI 10.1007/s00705-023-05776-9
Lazar A, 2014, PLOS ONE, V9, DOI 10.1371/journal.pone.0104553
Lee CC, 2018, MOL PLANT PATHOL, V19, P2319, DOI 10.1111/mpp.12701
Lim JH, 2011, BIOCHEM BIOPH RES CO, V411, P613, DOI 10.1016/j.bbrc.2011.07.002
Lin JY, 2024, PLANT COMMUN, V5, DOI 10.1016/j.xplc.2023.100659
Liu JZ, 2014, MOL PLANT MICROBE IN, V27, P824, DOI 10.1094/MPMI-11-13-0350-R
Liu P, 2025, DEV CELL, V60, DOI 10.1016/j.devcel.2024.11.020
Liu XD, 2022, PLANT PHYSIOL, V189, P1065, DOI 10.1093/plphys/kiac099
Liu YL, 2004, PLANT J, V38, P800, DOI 10.1111/j.1365-313X.2004.02085.x
Liu YL, 2004, J BIOL CHEM, V279, P2101, DOI 10.1074/jbc.M310029200
López-Martín M, 2024, BMC PLANT BIOL, V24, DOI 10.1186/s12870-024-04745-x
Mei YZ, 2021, NEW PHYTOL, V231, P747, DOI 10.1111/nph.17387
Mestre P, 2006, PLANT CELL, V18, P491, DOI 10.1105/tpc.105.037234
Mittler R, 1996, PLANT CELL, V8, P1991, DOI 10.1105/tpc.8.11.1991
Miya A, 2007, P NATL ACAD SCI USA, V104, P19613, DOI 10.1073/pnas.0705147104
Navarro JA, 2021, PLANT J, V108, P197, DOI 10.1111/tpj.15435
Nicaise V, 2017, MOL PLANT PATHOL, V18, P878, DOI 10.1111/mpp.12447
Niehl A, 2016, NEW PHYTOL, V211, P1008, DOI 10.1111/nph.13944
Padmanabhan MS, 2013, PLOS PATHOG, V9, DOI 10.1371/journal.ppat.1003235
Patel A, 2017, PLANT SCI, V262, P127, DOI 10.1016/j.plantsci.2017.06.005
Rodriguez MCS, 2010, ANNU REV PLANT BIOL, V61, P621, DOI 10.1146/annurev-arplant-042809-112252
Schaffer R, 2001, PLANT CELL, V13, P113, DOI 10.1105/tpc.13.1.113
Schoenbeck MA, 1999, MOL PLANT MICROBE IN, V12, P882, DOI 10.1094/MPMI.1999.12.10.882
Shang J, 2023, VIRUSES-BASEL, V15, DOI 10.3390/v15122389
Sinha AK, 2011, PLANT SIGNAL BEHAV, V6, P196, DOI 10.4161/psb.6.2.14701
Soyano T, 2003, GENE DEV, V17, P1055, DOI 10.1101/gad.1071103
Strating JRPM, 2017, CURR OPIN CELL BIOL, V47, P24, DOI 10.1016/j.ceb.2017.02.005
Sun TJ, 2022, EMBO REP, V23, DOI 10.15252/embr.202153817
Takahashi A, 2003, P NATL ACAD SCI USA, V100, P11777, DOI 10.1073/pnas.2033934100
Tomita R, 2011, MOL PLANT MICROBE IN, V24, P108, DOI 10.1094/MPMI-06-10-0127
Wang H, 2012, J VIROL, V86, P6546, DOI 10.1128/JVI.00125-12
Wang SF, 2022, NAT COMMUN, V13, DOI 10.1038/s41467-022-28500-8

Wang SF, 2020, ELIFE, V9, DOI 10.7554/eLife.56168
Wang W, 2017, ELIFE, V6, DOI [10.7554/eLife.26591, 10.7554/elife.26591]
Wang XT, 2021, EMBO J, V40, DOI 10.15252/embj.2021107660
WHITHAM S, 1994, CELL, V78, P1101, DOI 10.1016/0092-8674(94)90283-6
Xu HY, 2018, PLANT PHYSIOL, V178, P907, DOI 10.1104/pp.18.00903
Yang DY, 2022, PLANTA, V256, DOI 10.1007/s00425-022-04010-1
Yang KY, 2001, P NATL ACAD SCI USA, V98, P741, DOI 10.1073/pnas.98.2.741
Yu G, 2020, PLOS PATHOG, V16, DOI 10.1371/journal.ppat.1008933
Yue H, 2021, FRONT MICROBIOL, V12, DOI 10.3389/fmicb.2021.693574
Zhang DL, 2024, MOL PLANT, V17, P1369, DOI 10.1016/j.molp.2024.07.010
Zhang DL, 2023, P NATL ACAD SCI USA, V120, DOI 10.1073/pnas.2214750120
Zhang MM, 2022, J INTEGR PLANT BIOL, V64, P301, DOI 10.1111/jipb.13215
Zhang SQ, 1998, P NATL ACAD SCI USA, V95, P7433, DOI 10.1073/pnas.95.13.7433
Zhang YL, 2019, NAT COMMUN, V10, DOI 10.1038/s41467-019-11202-z
Zipfel C, 2014, TRENDS IMMUNOL, V35, P345, DOI 10.1016/j.it.2014.05.004

Cited Reference Count: 80

Abstract: The Mitogen-Activated Protein Kinase (MAPK) cascade is an evolutionarily conserved signaling pathway that perceives various external and internal signals and governs an array of biological processes. Studies have shown MAPK's role in plant development and defense against diverse pathogens. However, MAPK's role in plant-virus interactions remains relatively unexplored, making it an active area of research. Recent studies have emphasized the role of MAPK in viral defense and the tri-trophic interactions of pant-insect-vector interactions. Although studies elucidating viral counter-defense are limited, some recent works have shown the direct interaction of viral proteins with MAPKs thwarting MAPK-mediated defense. Drawing insights from recent works, we have thoroughly examined the MAPK cascade in plant virus interactions, providing a concise yet comprehensive overview of this dynamic field.

Accession Number: WOS:001459769100001

Language: English

Document Type: Review; Early Access

Author Keywords: PRRs; PTI; ETI; MAPKs; Plant immunity; Plant-virus interactions

KeyWords Plus: ACTIVATED PROTEIN-KINASE; TOBACCO-MOSAIC-VIRUS; PROGRAMMED CELL-DEATH; RESISTANCE GENE-N; DISEASE RESISTANCE; HYPERSENSITIVE RESPONSE; TRANSCRIPTION FACTOR; MEDIATED RESISTANCE; INNATE IMMUNITY; INFECTION

Addresses: [Kumar, Sunil; Singh, Dhanraj; Chakraborty, Supriya] Jawaharlal Nehru Univ, Sch Life Sci, Mol Virol Lab, New Delhi 110067, India.

Corresponding Address: Chakraborty, S (corresponding author), Jawaharlal Nehru Univ, Sch Life Sci, Mol Virol Lab, New Delhi 110067, India.

E-mail Addresses: supriyachakrasls@yahoo.com

Affiliations: Jawaharlal Nehru University, New Delhi

Publisher: SPRINGER

Publisher Address: ONE NEW YORK PLAZA, SUITE 4600, NEW YORK, NY, UNITED STATES

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Plant Sciences

Research Areas: Plant Sciences

IDS Number: 0ZO7H

ISSN: 0971-5894

eISSN: 0974-0430

29-char Source Abbrev.: PHYSIOL MOL BIOL PLA

ISO Source Abbrev.: Physiol. Mol. Biol. Plants

Source Item Page Count: 11

Funding:

Funding Agency	Grant Number
Department of Biotechnology, Ministry of Science and Technology, India	
University Grants Commission	CRG/2022/001492
Science and Engineering Research Board	BT/INF/22/SP45382/2022
DBT BUILDER	

SK acknowledges Junior Research Fellowship received from the University Grants Commission. SC acknowledges financial support from Science and Engineering Research Board (grant no. CRG/2022 /001492) and DBT BUILDER (grant no. BT/INF/22/SP45382/2022).

Output Date: 2025-05-06

Record 8 of 33

Title: Flood exposure and childhood malnutrition in India using composite index of anthropometric failure (CIAF)

Author(s): Hussain, D (Hussain, Dilwar); Sharma, S (Sharma, Sanjeev)

Source: ENVIRONMENTAL RESEARCH **Volume:** 276 **Article Number:** 121527 **DOI:** 10.1016/j.envres.2025.121527 **Early Access Date:** APR 2025 **Published Date:** 2025 JUL 1

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 1

Usage Count (Since 2013): 1

Cited References: Aboud FE, 2015, ANNU REV PSYCHOL, V66, P433, DOI 10.1146/annurev-psych-010814-015128
Adjimoti G. O., 2018, Agriculture and Food Security, V7, DOI 10.1186/s40066-018-0233-x
Agabiirwe CN, 2022, ENVIRON HEALTH-GLOB, V21, DOI 10.1186/s12940-022-00910-7
Ahern M, 2005, EPIDEMIOL REV, V27, P36, DOI 10.1093/epirev/mxi004
Ahmed S, 2021, INDOOR AIR, V31, P2167, DOI 10.1111/ina.12850
Alderman K, 2012, ENVIRON INT, V47, P37, DOI 10.1016/j.envint.2012.06.003
Amondo EI, 2023, FOOD SECUR, V15, P571, DOI 10.1007/s12571-023-01354-8
[Anonymous], 2010, NUTR LANDSCAPE INFOR
[Anonymous], 2020, The double burden of malnutrition: priority actions on ending childhood obesity
[Anonymous], 2014, Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition.
Averett S.L., 2015, The Oxford Handbook of Economics and Human Biology
Balietti A., 2017, The Impact of Indoor Solid Fuel Use on the Stunting of Indian Children, P1
Baruah C., 2019, Int. J. Pure App. Biosci, V7, P122
Bhandari N, 2008, MATERN CHILD NUTR, V4, P5, DOI 10.1111/j.1740-8709.2007.00126.x
Bharali N., 2019, ANTHROPOL REV, V82, P163, DOI [10.2478/anre-2019-0012, DOI 10.2478/anre-2019-0012]
Bhutta ZA, 2017, NAT REV DIS PRIMERS, V3, DOI 10.1038/nrdp.2017.67
Black RE, 2013, LANCET, V382, P427, DOI 10.1016/S0140-6736(13)60937-X
Borooah V.K., 2004, Journal of Quantitative Economics, V2, P186

Buttenheim A.M., 2006, On-Line Working Paper Series, V1-46
Chada R.R., 2014, Int. J. Soc. Work. Human. Ser. Practice, V2, P16
Chotard S, 2010, FOOD NUTR BULL, V31, pS219, DOI 10.1177/15648265100313S302
CHOUDHURY AY, 1993, J BIOSOC SCI, V25, P351, DOI 10.1017/S002193200002068X
Cooper MW, 2019, P NATL ACAD SCI USA, V116, P17219, DOI 10.1073/pnas.1905228116
Covarrubias k.A., 2015, Agecon searc. Food secure working paper no. 32. 1.55
CWC, 2018, State-wise Flood Data Damage Statistics
Das S., 2015, ANTHROPOL REV, V78, P47, DOI [10.1515/anre-2015-0004, DOI 10.1515/anre-2015-0004]
Dasgupta A, 2014, INDAN J COMMUNITY HE, V26, P132
De-Regil LM, 2011, COCHRANE DB SYST REV, DOI 10.1002/14651858.CD009085.pub2
del Ninno C, 2005, ECON HUM BIOL, V3, P65, DOI 10.1016/j.ehb.2004.12.002
Dimitrova A, 2020, GLOBAL ENVIRON CHANG, V64, DOI 10.1016/j.gloenvcha.2020.102130
Dimitrova A, 2020, PLOS ONE, V15, DOI 10.1371/journal.pone.0231479
Querol SE, 2021, NUTRIENTS, V13, DOI 10.3390/nu13082867
Fanzo J, 2018, The 2018 global nutrition report: shining a light to spur action on nutrition, P88149
Gabrysch S., 2018, Lancet Planet. Health, V2, pS3, DOI 10.1016/S2542-5196(18)30088-3
Goudet SM, 2011, MATERN CHILD NUTR, V7, P198, DOI 10.1111/j.1740-8709.2010.00250.x
Haddad L, 2015, HEALTH POLICY PLANN, V30, P1193, DOI 10.1093/heapol/czu110
Haq I.U., 2024, Ecol. Food Nutr., P1
Haq I. ul, 2022, Braz. J. Biol., V82, pe249971, DOI 10.1590/1519-6984.249971
Harville EW, 2021, INT J DISAST RISK RE, V62, DOI 10.1016/j.ijdrr.2021.102415
Hoddinott J, 2001, OXFORD B ECON STAT, V63, P409, DOI 10.1111/1468-0084.t01-1-00227
Hoke MK, 2022, SOC SCI MED, V295, DOI 10.1016/j.socscimed.2021.113720
Hossain SMM, 2013, IDS BULL-I DEV STUD, V44, P10, DOI 10.1111/1759-5436.12026
Hossain SMM, 2003, DISASTERS, V27, P172, DOI 10.1111/1467-7717.00227
Hussain D., 2022, Popul. Geogr., V44, P256
Hussain D, 2024, GEOJOURNAL, V89, DOI 10.1007/s10708-024-11028-3
International Institute for Population Sciences (IIPS) and ICF, 2021, National Family Health Survey (NFHS-5), 2019-21: India
Islam S, 2021, INDOOR AIR, V31, P229, DOI 10.1111/ina.12730
Jain A, 2024, INT J EQUITY HEALTH, V23, DOI 10.1186/s12939-024-02218-z
Jain Vaishali, 2024, Asian Journal of Medical Sciences, V15, P121, DOI 10.3126/ajms.v15i5.62145
Joshi PC, 2011, GLOBAL HEALTH ACTION, V4, DOI 10.3402/gha.v4i0.6355
Ju QQ, 2024, APPL PSYCHOL-HLTH WE, V16, P1159, DOI 10.1111/aphw.12522
Katoch O.R., 2023, Public Health Ancient Sci, V3, P3
Katoch OR, 2024, NUTR FOOD SCI, V54, P349, DOI 10.1108/NFS-03-2023-0055
Katoch OR, 2022, NUTRITION, V96, DOI 10.1016/j.nut.2021.111565
Khan J, 2018, BMC PUBLIC HEALTH, V18, DOI 10.1186/s12889-018-5873-z
Khan R.E.A., 2014, Pakistan Journal of Commerce and Social Sciences, V8, P11
Khanday Z.A., 2012, Int. J. Appl. Sociol., V2, P60, DOI DOI 10.5923/J.IJAS.20120206.02
Khor Geok Lin, 2003, Nepal Med Coll J, V5, P113
Lan TJ, 2022, J GLOB HEALTH, V12, DOI 10.7189/jogh.12.11007
Lau CL, 2010, T ROY SOC TROP MED H, V104, P631, DOI 10.1016/j.trstmh.2010.07.002
Levy K, 2016, ENVIRON SCI TECHNOL, V50, P4905, DOI 10.1021/acs.est.5b06186
Lieber M, 2022, GLOB PUBLIC HEALTH, V17, P68, DOI 10.1080/17441692.2020.1860247
Mallett LH, 2018, DISASTERS, V42, P432, DOI 10.1111/disa.12256
Mango N., 2018, Agriculture & Food Security, V7, P7, DOI 10.1186/s40066-018-0160-x
Mazumdar S, 2010, ASIAN POPUL STUD, V6, P307, DOI 10.1080/17441730.2010.512763
Mishra VK., 2000, Women's education can improve child nutrition in India
Mohsin S.N., 2017, Pakistan J. Med. Res., V56, P39
Muttarak R, 2019, BMJ GLOB HEALTH, V4, DOI 10.1136/bmjgh-2018-001215

Nandy S, 2005, B WORLD HEALTH ORGAN, V83, P210
O'Donnell MR, 2002, DISASTERS, V26, P229, DOI 10.1111/1467-7717.00202
Olson David M, 2020, F1000Res, V9, DOI 10.12688/f1000research.27157.1
Parvin GA, 2015, DISAST RISK REDUCT, P235, DOI 10.1007/978-4-431-55411-0_13
Pasricha SR, 2010, J PAEDIATR CHILD H, V46, P497, DOI 10.1111/j.1440-1754.2010.01839.x
Pathak PK, 2011, SOC SCI MED, V73, P576, DOI 10.1016/j.socscimed.2011.06.024
Prasad JB, 2021, DIABETES METAB SYND, V15, DOI 10.1016/j.dsx.2021.102304
Rahman MS, 2016, PLOS ONE, V11, DOI 10.1371/journal.pone.0157814
Rahman MHU, 2020, CHILD YOUTH SERV REV, V117, DOI 10.1016/j.childyouth.2020.105345
Rahman M, 2024, NUTRITION, V119, DOI 10.1016/j.nut.2023.112300
Rodriguez-Llanes JM, 2016, INT J ENV RES PUB HE, V13, DOI 10.3390/ijerph13020210
Rodriguez-Llanes JM, 2016, PEERJ, V4, DOI 10.7717/peerj.1741
Rodriguez-Llanes JM, 2011, BMJ OPEN, V1, DOI 10.1136/bmjopen-2011-000109
Saha J, 2024, DISASTER MED PUBLIC, V18, DOI 10.1017/dmp.2024.123
Sen J, 2012, ANN HUM BIOL, V39, P129, DOI 10.3109/03014460.2012.655777
Sguassero Y, 2012, COCHRANE DB SYST REV, DOI 10.1002/14651858.CD005039.pub3
Mishra PS, 2022, CHILD INDIC RES, V15, P1871, DOI 10.1007/s12187-022-09943-3
Singh A., 2022, J. Soc. Behav. Commun. Health, V6, P786
Singh A., 2020, PERSPECTIVE RECENT A
Singh KD, 2015, PLOS ONE, V10, DOI 10.1371/journal.pone.0130567
Singh P, 2021, J NUTR, V151, P2455, DOI 10.1093/jn/nxab150
Singh Sarkar D., 2014, Socioeconomic determinants of child malnutrition in India: evidence from NFHS-III
Singh S, 2019, INT J EQUITY HEALTH, V18, DOI 10.1186/s12939-019-1093-0
Sk R, 2021, BMC PUBLIC HEALTH, V21, DOI 10.1186/s12889-021-11704-w
STEWART MK, 1990, ECOL FOOD NUTR, V24, P121, DOI 10.1080/03670244.1990.9991127
Svedberg P, 2000, WIDER STUDY GROUP S
Swaminathan S, 2019, LANCET CHILD ADOLESC, V3, P855, DOI 10.1016/S2352-4642(19)30273-1
Ul Haq I, 2022, BIOMED RES INT, V2022, DOI 10.1155/2022/6464901
ul Haq I, 2021, ECOL FOOD NUTR, V60, P491, DOI 10.1080/03670244.2021.1872024
Ulahannan SK, 2023, INDIAN J PEDIATR, V90, P77, DOI 10.1007/s12098-023-04720-8
UNICEF, 2019, The State of the world's Children 2019: Children, Food and Nutrition: Growing Well in a Changing World
UNICEF, 1999, The progress of nations, 1999
United Nations, 70 SESS UN GEN ASS A
United Nations, 2015, Transforming Our World: The 2030 Agenda for Sustainable Development, DOI DOI 10.1201/B20466-7
Upadhyay AK, 2021, J BIOSOC SCI, V53, P121, DOI 10.1017/S0021932020000097
Upadhyay AK, 2015, BMC PUBLIC HEALTH, V15, DOI 10.1186/s12889-015-1631-7
Vikram K, 2020, J BIOSOC SCI, V52, P57, DOI 10.1017/S0021932019000245
Week DA., 2020, Asian Journal of Geographical Research, V3, P1, DOI [10.9734/ajgr/2020/v3i130096, DOI 10.9734/AJGR/2020/V3I130096]
WHO/UNICEF/World Bank Group Joint, 2021, Levels and trends in child malnutrition. Child Malnutrition Estimates: Key Findings of the 2021 Edition
Woldehanna T., 2010, Economic Development in Africa
Yamano T, 2005, AM J AGR ECON, V87, P273, DOI 10.1111/j.1467-8276.2005.00721.x

Cited Reference Count: 109

Abstract: The flood exposure in India exacerbates childhood malnutrition, particularly in the vulnerable regions of India. Presently, India is facing a dual burden of natural disasters and malnutrition, especially in the vulnerable regions that are exposed to floods. Many studies have been focused on micro-level or regional-level analyses. The present study is uniquely examining the association between flood exposure and

malnutrition at a national scale. The study investigated the impacts of flood exposure on childhood malnutrition, using the Composite Index of Anthropometric Failure (CIAF) to assess stunting, wasting, and underweight among children under five years age group. The present study is based on the analyses of data from the National Family Health Survey (NFHS-5, 2019-2021) and Central Water Commission (CWC) reports. The data were analyzed across flood-affected regions in India and categorized by the frequency of flood events (i.e., non-flooded; 1-2 times flooded; and three times flooded events). The analysis reveals a significant increase in malnutrition rates with higher flood exposure in regions experiencing three flood events, 38 percent of children were stunted, 20 percent were wasted, and 35.7 percent were underweight as compared to non-flooded areas. Factors such as low birth weight, maternal education, sanitation facilities, and household infrastructure intensified malnutrition outcomes. The major findings of the study suggested that repeated flooding events aggravate food insecurity and increase vulnerability to child malnutrition. This study not only highlights the compounded effects of flood exposure and socio-economic disparities on CIAF malnutrition but also offers policy-relevant insights. The results of the study highlight the urgent need for targeted interventions, including developing disaster-resilient infrastructure, educational programs for mothers, and enhanced access to sanitation and healthcare in flood-affected regions in India.

Accession Number: WOS:001464486200001

PubMed ID: 40185268

Language: English

Document Type: Article

Author Keywords: Flood; CIAF; Malnutrition; Stunting; Maternal education; India

KeyWords Plus: HEALTH OUTCOMES; AFFECTED AREAS; GLOBAL HEALTH; CHILDREN; UNDERNUTRITION; BANGLADESH; NUTRITION; INEQUALITY; PAKISTAN; POVERTY

Addresses: [Hussain, Dilwar; Sharma, Sanjeev] Jawaharlal Nehru Univ, Ctr Study Reg Dev, Sch Social Sci, New Delhi 110067, India.

Corresponding Address: Hussain, D (corresponding author), Jawaharlal Nehru Univ, Ctr Study Reg Dev, Sch Social Sci, New Delhi 110067, India.

E-mail Addresses: dilwargeo152026@gmail.com; sanjuscorp@gmail.com

Affiliations: Jawaharlal Nehru University, New Delhi

Publisher: ACADEMIC PRESS INC ELSEVIER SCIENCE

Publisher Address: 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495 USA

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Environmental Sciences; Public, Environmental & Occupational Health

Research Areas: Environmental Sciences & Ecology; Public, Environmental & Occupational Health

IDS Number: 1GN2W

ISSN: 0013-9351

eISSN: 1096-0953

29-char Source Abbrev.: ENVIRON RES

ISO Source Abbrev.: Environ. Res.

Source Item Page Count: 10

Funding:

Funding Agency	Grant Number
UGC	

The authors would like to express their gratitude to the Centre for the Study of Regional Development at Jawaharlal Nehru University for providing the opportunity and essential facilities to conduct this study.

While no funding was received for this research, it was completed during the tenure of the UGC-Junior Research Fellowship. The authors are also thankful to the DHS, IIPS, and Central Worker Commission for providing secondary data for this analysis.

Output Date: 2025-05-06

Record 9 of 33

Title: Theoretical investigation on generation and manipulation of robust continuous-variable entanglement in a circular array of nonlinear waveguides

Author(s): Meena, SS (Meena, Sugar Singh); Rai, A (Rai, Amit)

Source: JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS **Volume:** 42 **Issue:** 4 **Pages:** 825-832 **DOI:** 10.1364/JOSAB.540698 **Published Date:** 2025 APR 1

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Alibart O, 2016, J OPTICS-UK, V18, DOI 10.1088/2040-8978/18/10/104001
Anuradha T, 2024, PHYS REV A, V109, DOI 10.1103/PhysRevA.109.032411
Anuradha T, 2023, J OPTICS-UK, V25, DOI 10.1088/2040-8986/ace53b
Armstrong S, 2012, NAT COMMUN, V3, DOI 10.1038/ncomms2033
Bang O, 1996, OPT LETT, V21, P1105, DOI 10.1364/OL.21.001105
Barral D, 2021, OPT EXPRESS, V29, P37175, DOI 10.1364/OE.435281
Barral D, 2021, PHYS REV RES, V3, DOI 10.1103/PhysRevResearch.3.013068
Barral D, 2020, PHYS REV APPL, V14, DOI 10.1103/PhysRevApplied.14.044025
Barral D, 2020, PHYS REV A, V102, DOI 10.1103/PhysRevA.102.043706
Barral D, 2019, PHYS REV A, V100, DOI 10.1103/PhysRevA.100.013824
Barral D, 2019, PHYS REV A, V99, DOI 10.1103/PhysRevA.99.051801
Barral D, 2017, PHYS REV A, V96, DOI 10.1103/PhysRevA.96.053822
Belsley A, 2020, OPT EXPRESS, V28, P28792, DOI 10.1364/OE.401303
Bouwmeester D, 1997, NATURE, V390, P575, DOI 10.1038/37539
Boyd R. W., 2020, Nonlinear Optics, V4th
BURNHAM DC, 1970, PHYS REV LETT, V25, P84, DOI 10.1103/PhysRevLett.25.84
Chen M, 2014, PHYS REV LETT, V112, DOI 10.1103/PhysRevLett.112.120505
Chen ZH, 2017, OPT LETT, V42, P887, DOI 10.1364/OL.42.000887
Christodoulides DN, 2003, NATURE, V424, P817, DOI 10.1038/nature01936
Christodoulides DN, 2001, PHYS REV LETT, V87, DOI 10.1103/PhysRevLett.87.233901
D'Auria V, 2005, J OPT B-QUANTUM S O, V7, pS750, DOI 10.1088/1464-4266/7/12/044
Dreessen CL, 2019, QUANTUM SCI TECHNOL, V4, DOI 10.1088/2058-9565/aadbb8
Duan LM, 2000, PHYS REV LETT, V84, P2722, DOI 10.1103/PhysRevLett.84.2722
Fukui K, 2020, PHYS REV A, V102, DOI 10.1103/PhysRevA.102.032614
Garanovich IL, 2012, PHYS REP, V518, P1, DOI 10.1016/j.physrep.2012.03.005
Gerke S, 2015, PHYS REV LETT, V114, DOI 10.1103/PhysRevLett.114.050501
Gerry C., 2004, INTRO QUANTUM OPTICS
Hamilton CS, 2022, PHYS REV A, V105, DOI 10.1103/PhysRevA.105.042622
Heinrich M, 2008, APPL PHYS LETT, V93, DOI 10.1063/1.2981801
Herec J, 2003, J OPT B-QUANTUM S O, V5, P419, DOI 10.1088/1464-4266/5/5/008
Hizanidis K, 2006, INT J BIFURCAT CHAOS, V16, P1739, DOI 10.1142/S0218127406015647
Hudgings J, 2000, IEEE J QUANTUM ELECT, V36, P1438, DOI 10.1109/3.892564
Iwanow R, 2005, OPTO-ELECTRON REV, V13, P113

Iwanow R, 2004, PHYS REV LETT, V93, DOI 10.1103/PhysRevLett.93.113902
Jennewein T, 2002, PHYS REV LETT, V88, DOI 10.1103/PhysRevLett.88.017903
Jin H, 2014, PHYS REV LETT, V113, DOI 10.1103/PhysRevLett.113.103601
JONES DJ, 1994, IEEE J QUANTUM ELECT, V30, P119, DOI 10.1109/3.272069
Keil R, 2011, SCI REP-UK, V1, DOI 10.1038/srep00094
Kibret AA, 2024, J OPT SOC AM B, V41, pC20, DOI 10.1364/JOSAB.516660
Larsen MV, 2021, PRX QUANTUM, V2, DOI 10.1103/PRXQuantum.2.030325
Larsen MV, 2019, NPJ QUANTUM INFORM, V5, DOI 10.1038/s41534-019-0170-y
Lederer F, 2008, PHYS REP, V463, P1, DOI 10.1016/j.physrep.2008.04.004
Lenzini F, 2018, SCI ADV, V4, DOI 10.1126/sciadv.aat9331
Li LQ, 2022, ADV PHOTONICS, V4, DOI 10.1117/1.AP.4.2.024002
Longhi S, 2007, J PHYS B-AT MOL OPT, V40, P4477, DOI 10.1088/0953-4075/40/23/008
Masada G, 2015, NAT PHOTONICS, V9, P316, DOI 10.1038/NPHOTON.2015.42
Matthews JCF, 2009, NAT PHOTONICS, V3, P346, DOI 10.1038/NPHOTON.2009.93
Meany T, 2015, LASER PHOTONICS REV, V9, P363, DOI 10.1002/lpor.201500061
Meng Y., 2023, arXiv
Menicucci NC, 2011, PHYS REV A, V83, DOI 10.1103/PhysRevA.83.062314
Misra G, 2022, J OPTICS-UK, V24, DOI 10.1088/2040-8986/ac7057
NODA J, 1981, APPL OPTICS, V20, P2284, DOI 10.1364/AO.20.002284
Perets HB, 2008, PHYS REV LETT, V100, DOI 10.1103/PhysRevLett.100.170506
Pertsch T, 2005, OPT LETT, V30, P177, DOI 10.1364/OL.30.000177
Politi A, 2008, SCIENCE, V320, P646, DOI 10.1126/science.1155441
POLZIK ES, 1992, PHYS REV LETT, V68, P3020, DOI 10.1103/PhysRevLett.68.3020
Pooser R, 2014, PHYS REV A, V90, DOI 10.1103/PhysRevA.90.043841
Rai A, 2008, PHYS REV A, V78, DOI 10.1103/PhysRevA.78.042304
Rai A, 2012, PHYS REV A, V85, DOI 10.1103/PhysRevA.85.052330
Rai A, 2010, OPT EXPRESS, V18, P6241, DOI 10.1364/OE.18.006241
Rai A, 2022, J OPTICS-UK, V24, DOI 10.1088/2040-8986/ac9915
Ramakrishnan R., 2023, J. Opt.
Rojas-Rojas S, 2019, PHYS REV A, V100, DOI 10.1103/PhysRevA.100.023841
Setzpfandt F, 2009, OPT LETT, V34, P3589, DOI 10.1364/OL.34.003589
Sibson P, 2017, NAT COMMUN, V8, DOI 10.1038/ncomms13984
Solntsev AS, 2018, APL PHOTONICS, V3, DOI 10.1063/1.5009766
Solntsev AS, 2014, PHYS REV X, V4, DOI 10.1103/PhysRevX.4.031007
Solntsev AS, 2012, PHYS REV LETT, V108, DOI 10.1103/PhysRevLett.108.023601
SOMEKH S, 1973, APPL PHYS LETT, V22, P46, DOI 10.1063/1.1654468
Su X., 2012, Quantum Information and Measurement
Su XL, 2007, PHYS REV LETT, V98, DOI 10.1103/PhysRevLett.98.070502
Szameit A, 2010, J PHYS B-AT MOL OPT, V43, DOI 10.1088/0953-4075/43/16/163001
Tanzilli S, 2001, ELECTRON LETT, V37, P26, DOI 10.1049/el:20010009
Tesfahannes TG, 2020, J OPT SOC AM B, V37, pA245, DOI 10.1364/JOSAB.399097
Titchener JG, 2020, PHYS REV A, V101, DOI 10.1103/PhysRevA.101.023809
Tyc T, 2002, PHYS REV A, V65, DOI 10.1103/PhysRevA.65.042310
van Loock P, 2003, PHYS REV A, V67, DOI 10.1103/PhysRevA.67.052315
WALLS DF, 1983, NATURE, V306, P141, DOI 10.1038/306141a0
Wang JW, 2018, SCIENCE, V360, P285, DOI 10.1126/science.aar7053
Xu XY, 2022, NATURE, V609, P496, DOI 10.1038/s41586-022-05042-z
YAMADA M, 1993, APPL PHYS LETT, V62, P435, DOI 10.1063/1.108925
Yokoyama S, 2013, NAT PHOTONICS, V7, P982, DOI [10.1038/nphoton.2013.287, 10.1038/NPHOTON.2013.287]
Yonezawa H, 2010, OPT SPECTROSC+, V108, P288, DOI 10.1134/S0030400X10020189

Yoshikawa J, 2016, APL PHOTONICS, V1, DOI 10.1063/1.4962732
Zhao Y, 2020, PHYS REV LETT, V124, DOI 10.1103/PhysRevLett.124.193601

Cited Reference Count: 85

Abstract: We study the possibility of generating continuous-variable (CV) entanglement on an integrated chip through nonlinear optical waveguides coupled in a circular array. We show the simultaneous generation and manipulation of multimode CV entangled states of light in chi (2) nonlinear circular arrays (NCAs), a feat unattainable with linear optical waveguides and bulk optical elements. These weakly coupled integrated waveguide arrays are compact and can be fabricated using the femtosecond laser writing technique. This technique offers interferometric stability, scalability, and less sensitivity to decoherence. Our study investigates the potential of NCA to generate bipartite and tripartite CV entanglement. We present analytical results and numerical simulations based on coupled-mode equations for the evolution of field operators. Our findings suggest promising applications of compact on-chip sources in various photonic quantum technologies, such as communication, computing, and networking. (c) 2025 Optica Publishing Group. All rights, including for text and data mining (TDM), Artificial Intelligence (AI) training, and similar technologies, are reserved.

Accession Number: WOS:001459746100005

Language: English

Document Type: Article

KeyWords Plus: QUANTUM ENTANGLEMENT; SQUEEZED STATES; DESIGN

Addresses: [Meena, Sugar Singh; Rai, Amit] Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.

Corresponding Address: Rai, A (corresponding author), Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.

E-mail Addresses: amitrai@mail.jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Rai, Amit	JQO-0087-2023	

Publisher: Optica Publishing Group

Publisher Address: 2010 MASSACHUSETTS AVE NW, WASHINGTON, DC 20036 USA

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Optics

Research Areas: Optics

IDS Number: 0ZN8L

ISSN: 0740-3224

eISSN: 1520-8540

29-char Source Abbrev.: J OPT SOC AM B

ISO Source Abbrev.: J. Opt. Soc. Am. B-Opt. Phys.

Source Item Page Count: 8

Funding:

Funding Agency	Grant Number
Science and Engineering Research Board	CRG/2019/005749
Council of Scientific and Industrial Research, India	80/0100/24/EMR-II

Funding. Science and Engineering Research Board (CRG/2019/005749) ; Council of Scientific and Industrial Research, India (80/0100/24/EMR-II) .

Output Date: 2025-05-06

Record 10 of 33

Title: CAN-Mediated Synthesis of 2-Deoxy Sugars: Access to Chiral 2-Deoxy 3-Bisindolyl-C-glycosides

Author(s): Yadav, Y (Yadav, Yogesh); Sagar, R (Sagar, Ram)

Source: ORGANIC LETTERS **Volume:** 27 **Issue:** 15 **Pages:** 4006-4012 **DOI:** 10.1021/acs.orglett.5c00976 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 8

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 2

Usage Count (Since 2013): 2

Cited References: Ansari AA, 2014, BEILSTEIN J ORG CHEM, V10, P300, DOI 10.3762/bjoc.10.27
BELL R, 1994, J NAT PRODUCTS, V57, P1587, DOI 10.1021/np50113a022
Bennett CS, 2018, CHEM REV, V118, P7931, DOI 10.1021/acs.chemrev.7b00731
Costantino V, 2000, TETRAHEDRON LETT, V41, P9177, DOI 10.1016/S0040-4039(00)01643-9
De Lederkremer RM, 2008, ADV CARBOHYD CHEM BI, V61, P143, DOI 10.1016/S0065-2318(07)61004-X
Elamparuthi E, 2008, TETRAHEDRON, V64, P11925, DOI 10.1016/j.tet.2008.08.109
Fernández R, 1999, J NAT PROD, V62, P678, DOI 10.1021/np980330l
GIESE B, 1988, LIEBIGS ANN CHEM, P615
Gómez AM, 2013, EUR J ORG CHEM, V2013, P7221, DOI 10.1002/ejoc.201300798
Hari B. M., 2005, Patent No. [US6933382B2, 6933382]
He YY, 2017, J ORG CHEM, V82, P2462, DOI 10.1021/acs.joc.6b02850
Herrera-González I, 2020, J ORG CHEM, V85, P5038, DOI 10.1021/acs.joc.0c00324
Hwu JR, 2017, CHEMISTRYOPEN, V6, P331, DOI 10.1002/open.201700050
Jat PK, 2022, J ORG CHEM, V87, P12975, DOI 10.1021/acs.joc.2c01524
Majumder R, 2024, J CHEM INF MODEL, V64, P5580, DOI 10.1021/acs.jcim.4c01104
Marino C, 2022, ORG BIOMOL CHEM, V20, P934, DOI 10.1039/d1ob02001c
More AA, 2020, ORG LETT, V22, P3759, DOI 10.1021/acs.orglett.0c00919
Nair V, 2007, CHEM REV, V107, P1862, DOI 10.1021/cr068408n
Pachamuthu K, 2001, J ORG CHEM, V66, P7511, DOI 10.1021/jo0103322
Page PCB, 2014, TETRAHEDRON, V70, P7283, DOI 10.1016/j.tet.2014.07.052
Paul S, 2004, CARBOHYD RES, V339, P2197, DOI 10.1016/j.carres.2004.07.010
Robertson AW, 2015, J AM CHEM SOC, V137, P3271, DOI 10.1021/ja5114672
Sridharan V, 2010, CHEM REV, V110, P3805, DOI 10.1021/cr100004p
Tiwari B, 2024, NEW J CHEM, V48, P9680, DOI 10.1039/d4nj00945b
Xiao J, 2016, GREEN CHEM, V18, P1032, DOI 10.1039/c5gc01838b
Xu S, 2024, NAT CHEM, V16, DOI 10.1038/s41557-024-01629-3
Yadav JS, 2001, NEW J CHEM, V25, P538, DOI 10.1039/b009973m
Yadav JS, 2004, TETRAHEDRON LETT, V45, P3673, DOI 10.1016/j.tetlet.2004.03.039
Yang TB, 2020, ORG LETT, V22, P827, DOI 10.1021/acs.orglett.9b04272
Yang XY, 2011, J AM CHEM SOC, V133, P12433, DOI 10.1021/ja205339p
Yang Y, 2017, CHEM REV, V117, P12281, DOI 10.1021/acs.chemrev.7b00234

Cited Reference Count: 31

Abstract: The 2-deoxy sugars and bisindole moieties are ubiquitously found in natural products and play a crucial role in medicinal chemistry and chemical biology. Herein, we report a novel, quick, and highly effective technique that utilizes ceric ammonium nitrate (CAN) to synthesize 2-deoxy sugars from various protected glycals within 1-2 h. Additionally, we further explore the new process of transforming 2-deoxy sugars into chirally pure 2-deoxy-3-bisindolyl-C-glycosides molecular scaffolds using a catalytic amount of indium trichloride (InCl3) in good yields at room temperature. This method emphasizes inherited stereo diversity and a wide substrate scope, which enables the synthesis of various new 2-deoxy 3-bisindolyl-C-glycoside analogues, paving the way for further exploration of their application in medicinal chemistry and chemical biology.

Accession Number: WOS:001462716100001

PubMed ID: 40200388

Language: English

Document Type: Article

KeyWords Plus: CERIUM(IV) AMMONIUM-NITRATE; INDOLES; ALKYLATION; GLYCALS

Addresses: [Yadav, Yogesh; Sagar, Ram] Jawaharlal Nehru Univ, Sch Phys Sci, Glycochem Lab, New Delhi 110067, India.

Corresponding Address: Sagar, R (corresponding author), Jawaharlal Nehru Univ, Sch Phys Sci, Glycochem Lab, New Delhi 110067, India.

E-mail Addresses: ram.sagar@jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Yadav, Yogesh Chand	GQY-4991-2022	

Publisher: AMER CHEMICAL SOC

Publisher Address: 1155 16TH ST, NW, WASHINGTON, DC 20036 USA

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Chemistry, Organic

Research Areas: Chemistry

IDS Number: 1PK3L

ISSN: 1523-7060

eISSN: 1523-7052

29-char Source Abbrev.: ORG LETT

ISO Source Abbrev.: Org. Lett.

Source Item Page Count: 7

Funding:

Funding Agency	Grant Number
Prime Minister Research Fellowship (PMRF), (MoE) Government of India	

The authors thank Jawaharlal Nehru University (JNU) for providing research facilities to carry out this work. The authors are grateful to the Ultra International and Sanganeria Foundation for supporting lab furniture at the Glycochemistry Laboratory at JNU. Y.Y. is thankful to the Prime Minister Research Fellowship (PMRF), (MoE) Government of India.

Output Date: 2025-05-06

Record 11 of 33

Title: Health and ecological risk assessment of metals in surface water from the Himalayan tributaries of the Ganga river, India

Author(s): Azam, MM (Azam, Md Maroof); Tripathi, JK (Tripathi, Jayant K.)

Source: GEOCHEMICAL TRANSACTIONS **Volume:** 26 **Issue:** 1 **Article Number:** 3 **DOI:** 10.1186/s12932-025-00100-7 **Published Date:** 2025 APR 15

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Khan MYA, 2017, ENVIRON EARTH SCI, V76, DOI 10.1007/s12665-017-6547-3
Azam MM, 2018, ENVIRON EARTH SCI, V77, DOI 10.1007/s12665-018-7490-7
Banerjee T, 2024, AGR RES, V13, P529, DOI 10.1007/s40003-024-00720-y
Beg Z, 2022, ENVIRON MONIT ASSESS, V194, DOI 10.1007/s10661-022-10192-8
Berner E.K., 1987, The Global Water Cycle: Geochemistry and Environment, P397
BIS, 2012, IS 10500, P1
Boral S, 2020, GEOCHEM GEOPHY GEOSY, V21, DOI 10.1029/2020GC009203
CHAKRAPANI GJ, 1990, CHEM GEOL, V81, P241, DOI 10.1016/0009-2541(90)90118-Q
Dang HS, 1994, Physical, anatomical, physiological and metabolic data for reference Indian man-a proposal
De Miguel E, 2007, CHEMOSPHERE, V66, P505, DOI 10.1016/j.chemosphere.2006.05.065
Dixit A, 2023, INT J ENVIRON AN CH, V103, P7606, DOI 10.1080/03067319.2021.1974012
Dwivedi S, 2023, J TRACE ELEM MED BIO, V80, DOI 10.1016/j.jtemb.2023.127308
Edet A. E., 2002, GeoJournal, V57, P295, DOI 10.1023/B:GEJO.0000007250.92458.de
Egbueri JC, 2024, ENVIRON DEV SUSTAIN, DOI 10.1007/s10668-024-05423-6
Egbueri JC, 2020, ANAL LETT, V53, P2812, DOI 10.1080/00032719.2020.1759616
Egbueri JC, 2020, APPL WATER SCI, V10, DOI 10.1007/s13201-020-01180-9
Fang SM, 2023, ENVIRON SCI POLLUT R, V30, P112445, DOI 10.1007/s11356-023-30239-8
Gaillardet J., 2003, Treatise on Geochemistry, V5, P225, DOI [10.1016/B0-08-043751-6/05165-3, DOI 10.1016/B0-08-043751-6/05165-3]
Galy A, 1999, GEOCHIM COSMOCHIM AC, V63, P1905, DOI 10.1016/S0016-7037(99)00081-2
Garrels RM., 1975, Chemical cycles and the global Environmentassessing human influences, P260
GUPTA RP, 1990, ENG GEOL, V28, P119, DOI 10.1016/0013-7952(90)90037-2
HAKANSON L, 1980, WATER RES, V14, P975, DOI 10.1016/0043-1354(80)90143-8
Hakanson L., 1988, Metals in coastal environments of Latin America, P239, DOI [10.1007/978-3-642-71483-221, DOI 10.1007/978-3-642-71483-221]
Hou DK, 2013, ECOTOX ENVIRON SAFE, V93, P135, DOI 10.1016/j.ecoenv.2013.03.012
International Agency for Research on Cancer (IARC), 2023, IARC Monographs on the Identification of Carcinogenic Hazards to Humans
JAIN SC, 1995, HEALTH PHYS, V68, P509, DOI 10.1097/00004032-199504000-00008
Jha PK, 2009, CHEM GEOL, V264, P364, DOI 10.1016/j.chemgeo.2009.03.025
Lapworth DJ, 2021, J HYDROL, V594, DOI 10.1016/j.jhydrol.2020.125923
Li SY, 2009, CHEM GEOL, V264, P89, DOI 10.1016/j.chemgeo.2009.02.021
Lupker M, 2012, GEOCHIM COSMOCHIM AC, V84, P410, DOI 10.1016/j.gca.2012.02.001
Maanan M, 2015, ECOL INDIC, V48, P616, DOI 10.1016/j.ecolind.2014.09.034
MARTIN JM, 1979, MAR CHEM, V7, P173, DOI 10.1016/0304-4203(79)90039-2
Masters G.M., 1991, Introduction to environmental science and engineering
Meybeck M., 2003, Treatise Geochem, V5, P207, DOI [10.1016/B0-08-043751-6/05164-1, DOI 10.1016/B0-08-043751-6/05164-1]
Mishra B, 2024, BIOL TRACE ELEM RES, V202, P4751, DOI 10.1007/s12011-023-04020-4

Mohan SV, 1996, J ENVIRON SCI HEAL A, V31, P283, DOI 10.1080/10934529609376357
Neogi B, 2018, HUM ECOL RISK ASSESS, V24, P2011, DOI 10.1080/10807039.2018.1436434
Ntakirutimana T, 2013, Pol J Environ Stud, V22
Oliver L, 2003, CHEM GEOL, V201, P119, DOI 10.1016/S0009-2541(03)00236-5
Onyemesili OO, 2022, ENVIRON FORENSICS, V23, P346, DOI 10.1080/15275922.2020.1850564
Prasad B, 2001, ENVIRON GEOL, V41, P183, DOI 10.1007/s002540100380
Rai SK, 2010, GEOCHIM COSMOCHIM AC, V74, P2340, DOI 10.1016/j.gca.2010.01.008
Rao K.L., 1975, India's water wealth, P225
Reddy S J., 1995, Environ Media Karlia, V1, P342
Schwarzbauer J., 2006, Organic contaminants in riverine and groundwater systems
Singh RL, 1994, India: A regional geography, National geographical society of India, P183
SUBRAMANIAN V, 1979, J HYDROL, V44, P37, DOI 10.1016/0022-1694(79)90145-8
Tiwari AK, 2015, B ENVIRON CONTAM TOX, V95, P304, DOI 10.1007/s00128-015-1558-9
Tiwari SK, 2016, ENVIRON EARTH SCI, V75, DOI 10.1007/s12665-016-5971-0
USEPA, 2009, EPA 822-R-09-011
USEPA, 1991, EPA/540/R-92/ 003
USEPA, 1989, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part A), DOI DOI 10.1016/J.IJHEH.2008.05.002
USEPA (US Environmental Protection Agency), 2004, Risk assessment guidance for superfund volume I: human health evaluation manual (Part E
Valdiya K.S., 1980, GEOLOGY KUMAON LESSE, P1
Viers J, 2009, SCI TOTAL ENVIRON, V407, P853, DOI 10.1016/j.scitotenv.2008.09.053
Weissmannova HD, 2019, INT J ENV RES PUB HE, V16, DOI 10.3390/ijerph16224495
WHO, 2017, Guidelines for drinking-water quality. Fourth edition incorporating the first addendum, DOI [10.5005/jp/books/11431_8, DOI 10.5005/JP/BOOKS/11431_8]
Yadav SK, 2011, ENVIRON EARTH SCI, V62, P593, DOI 10.1007/s12665-010-0550-2
ZHANG J, 1995, J HYDROL, V168, P173, DOI 10.1016/0022-1694(94)02635-O

Cited Reference Count: 59

Abstract: This study investigates the trace element concentrations in the surface waters of four north-joining Himalayan tributaries of the Ganga river (Ramganga, Ghaghara, Gandak, and Kosi), highlighting the combined effects of geogenic processes and anthropogenic activities on trace element chemistry and water quality. A knowledge gap exists in understanding the sources of trace elements in these tributaries and the contribution of trace elements from these tributaries to the Gangariver. The novelty of the study lies in its assessment of sources, human health risks, and ecological impacts. The investigation was conducted by assessing trace element concentrations and comparing them with national and international standards. Various human health and ecological risk indicators, including the Heavy Metal Pollution Index (HPI), Hazard Quotient (HQ), Health Index (HI), Chronic Daily Intake (CDI), and the Potential Ecological Risk Index (PERI), were applied. The results reveal high concentrations of copper (Cu), zinc (Zn) and lead (Pb) in the Ramganga, indicating contamination from industrial activities in the catchment. Although most trace element concentrations are within safe limits, Pb concentration in the Ramganga exceeds the limit prescribed by WHO. The Ramganga shows the highest health risks, with a HItotal of 1.876 for adults and 1.616 for children. In contrast, the Ghaghara, Gandak, and Kosi exhibit lower but moderate contamination levels. HPI values for these rivers- 93.74 for the Ghaghara, 83.95 for the Kosi, 83.13 for the Gandak, and 80.43 for the Ramganga-indicate that although contamination is below critical thresholds, targeted mitigation strategies are needed. The findings provide valuable insights into trace metal sources and their implications for human health and ecological risks, and emphasize the need for frequent monitoring and pollution control measures for maintaining sustainable water quality in these tributaries.

Accession Number: WOS:001467219000001

PubMed ID: 40232583

Language: English

Document Type: Article

Author Keywords: Hydrogeochemistry; Ramganga; Ghaghara; Gandak; Kosi; Trace elements

KeyWords Plus: HEAVY-METALS; POLLUTION INDEX; MINING AREA; SEDIMENTS; GEOCHEMISTRY; CHEMISTRY; RATES

Addresses: [Azam, Md Maroof; Tripathi, Jayant K.] Jawaharlal Nehru Univ, Sch Environm Sci, New Delhi 110067, India.

Corresponding Address: Tripathi, JK (corresponding author), Jawaharlal Nehru Univ, Sch Environm Sci, New Delhi 110067, India.

E-mail Addresses: jktrip@yahoo.com

Affiliations: Jawaharlal Nehru University, New Delhi

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
AZAM, MAROOF	AAC-6565-2019	

Publisher: BMC

Publisher Address: CAMPUS, 4 CRINAN ST, LONDON N1 9XW, ENGLAND

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Geochemistry & Geophysics

Research Areas: Geochemistry & Geophysics

IDS Number: 1KO0U

ISSN: 1467-4866

29-char Source Abbrev.: GEOCHEM T

ISO Source Abbrev.: Geochem. Trans.

Source Item Page Count: 15

Funding:

Funding Agency	Grant Number
CSIR	
CIMFR, Dhanbad	

Dean SES, JNU, New Delhi and Director, CIMFR, Dhanbad are duly acknowledged for providing laboratory facilities.

Output Date: 2025-05-06

Record 12 of 33

Title: Effect of 'losses' and other secondary stressors on the association between flooding and psychological health outcomes: a cross-sectional study in Bongaigaon District, India

Author(s): Borah, G (Borah, Girimallika); Saikia, N (Saikia, Nandita)

Source: JOURNAL OF BIOSOCIAL SCIENCE **DOI:** 10.1017/S0021932025000136 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 15

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Ahern M, 2005, EPIDEMIOL REV, V27, P36, DOI 10.1093/epirev/mxi004
Alderman K, 2013, DISASTER MED PUBLIC, V7, P380, DOI 10.1017/dmp.2013.42
Ali H, 2019, WEATHER CLIM EXTREME, V25, DOI 10.1016/j.wace.2019.100212
Ashok V., 2019, CHRISMED Journal of Health and Research, V6, P97
Bandla S, 2019, INT J SOC PSYCHIATR, V65, P338, DOI 10.1177/0020764019846166
Cherry KE, 2021, PSYCHOL AGING, V36, P660, DOI 10.1037/pag0000602
Chung MC, 2014, PSYCHIATRY, V77, P289, DOI 10.1521/psyc.2014.77.3.289
Cochran W.G., 1977, Sampling techniques, V3
CRED, 2023, Disasters in numbers 2022
Dai WJ, 2017, MEDICINE, V96, DOI 10.1097/MD.0000000000007994
Dai WJ, 2017, PLOS ONE, V12, DOI 10.1371/journal.pone.0171557
Dai WJ, 2016, BMC PSYCHIATRY, V16, DOI 10.1186/s12888-016-1097-x
Dar KA, 2018, PSYCHIAT RES, V261, P449, DOI 10.1016/j.psychres.2018.01.023
Fernandez A, 2015, PLOS ONE, V10, DOI 10.1371/journal.pone.0119929
Fontalba-Navas A, 2017, PUBLIC HEALTH, V144, P96, DOI 10.1016/j.puhe.2016.12.015
Foudi S, 2017, WATER RESOUR RES, V53, P5831, DOI 10.1002/2017WR020435
French CE, 2019, BMJ OPEN, V9, DOI 10.1136/bmjopen-2019-031562
Government of Assam, 2022, District Disaster Management Plan, Bongaigaon District
Government of India, 1980, National Commission on Floods, VI
Government of India, 2019, National Health Action Plan on Climate Change and Mental Health
Hetherington E, 2018, DISASTER MED PUBLIC, V12, P470, DOI 10.1017/dmp.2017.91
James LE, 2020, PSYCHOL MED, V50, P342, DOI 10.1017/S0033291719000163
Jose M., 2021, International Journal of Community Medicine and Public Health, V8, P1842, DOI [10.18203/2394-6040.ijcmph20211243, DOI 10.18203/2394-6040.IJCMPH20211243]
Joy JLK, 2021, J NEUROSCI RURAL PRA, V12, P137, DOI 10.1055/s-0040-1721566
Lamond JE, 2015, ENVIRON RES, V140, P325, DOI 10.1016/j.envres.2015.04.008
Lebowitz A, 2019, PSYCHIAT RES, V271, P708, DOI 10.1016/j.psychres.2018.11.073
Mahmood HN, 2022, J TRAUMA STRESS, V35, DOI 10.1002/jts.22862
Mason V, 2010, PSYCHOL HEALTH MED, V15, P61, DOI 10.1080/13548500903483478
Mathew G, 2021, BMC PEDIATR, V21, DOI 10.1186/s12887-021-02933-4
McMillen C, 2002, COMPR PSYCHIAT, V43, P478, DOI 10.1053/comp.2002.34632
MN V., 2012, Journal of the Indian Academy of Applied Psychology, V39, P19
Munro A, 2017, LANCET PLANET HEALTH, V1, pE134, DOI [10.1016/S2542-5196(17)30047-5, 10.1016/s2542-5196(17)30047-5]
Norberg SJ, 2022, CAN J AGING, V41, P184, DOI 10.1017/S0714980821000271
Paranjothy S, 2011, BMC PUBLIC HEALTH, V11, DOI 10.1186/1471-2458-11-145
PARKER G, 1977, BRIT J PSYCHIAT, V130, P548, DOI 10.1192/bjp.130.6.548
Patel FM, 2015, J RES MED DENT SCI, V3, P303, DOI 10.5455/jrmds.20153413
Peek-Asa C, 2012, PREHOSP DISASTER MED, V27, P503, DOI 10.1017/S1049023X1200129X
Price M, 2016, PSYCHIAT RES, V239, P124, DOI 10.1016/j.psychres.2016.03.014
Raju E, 2018, DISASTER PREV MANAG, V27, P278, DOI 10.1108/DPM-08-2017-0190
Sadia H, 2016, INT J DISAST RISK RE, V19, P47, DOI 10.1016/j.ijdrr.2016.08.024
Sharpe I, 2021, BMJ OPEN, V11, DOI 10.1136/bmjopen-2021-051908
Srivastava M., 2015, International Journal of Health System and Disaster Management, V3, P37
Stanke Carla, 2012, PLoS Curr, V4, pe4f9f1fa9c3cae, DOI 10.1371/4f9f1fa9c3cae
Tempest EL, 2017, EUR J PUBLIC HEALTH, V27, P1042, DOI 10.1093/eurpub/ckx182
Thomas JJ, 2021, CLIN EPIDEMIOL GLOB, V9, P245, DOI 10.1016/j.cegh.2020.09.006
Tong SL, 2017, LANCET PLANET HEALTH, V1, pE124, DOI 10.1016/S2542-5196(17)30062-1
Wind TR, 2013, PREHOSPITAL DISASTER, V28, P279, DOI 10.1017/S1049023X13000290
Woodhall-Melnik J, 2019, INT J ENV RES PUB HE, V16, DOI 10.3390/ijerph16214174
Yoda T, 2017, DISASTER MED PUBLIC, V11, P300, DOI 10.1017/dmp.2016.148

Zhong S, 2018, SCI TOTAL ENVIRON, V626, P165, DOI 10.1016/j.scitotenv.2018.01.041

Cited Reference Count: 50

Abstract: Fluvial flooding is a recurring event in the Aie River basin in Assam, India. On August 14, 2021, floodwater breached a large stretch of embankment in the Bongaigaon District and inundated several villages. Using a cross-sectional design to conduct household surveys in February and March 2022, the study investigates responses six to seven months following the August 2021 flood disasters. The purpose of this study is to determine the prevalence and risk factors of four psychological health outcomes. Being flooded is strongly and adversely associated with each of these mental health outcomes. After adjusting for the potential confounders, the strength of the relationships is reduced to four times (adjusted OR 4.62 [95% CI 2.63-8.1]; $p < 0.01$) for PTSD, five times (adjusted OR 5.28[95% CI 3.38-8.26]; $p < 0.01$) for anxiety, and three times (adjusted OR 3.45[95% CI 2.24-5.33]; $p < 0.01$) for depression, and 21 times for comorbid PTSD, anxiety, and depression (adjusted OR 21.68[95% CI 7.38-63.74]; $p < 0.01$). The robustness of flood exposure is checked in an extended model. It includes variables that indicate the severity of flooding and various secondary stressors. The present study also explores the effects of 'loss stressors' such as crop loss, workday loss, livestock loss, and damage to infrastructure. Located in a resource-constrained setting, the effects of these factors add value to the study. Longer duration of floodwater in the house premise increases the odds of developing anxiety (adjusted OR 1.69[95% CI 1.04-2.75]; $p < 0.05$) and depression (adjusted OR 1.9[95% CI 1.15-3.12]; $p < 0.05$). Similarly, deeper floodwater inside the house increases the odds of depression (adjusted OR 1.87[95% CI 1.07-3.28]; $p < 0.05$). Among all the 'loss' stressors, damage to houses and the cost of repairing is significantly associated with PTSD (adjusted OR 2.04[95% CI 1.09-3.82]; $p < 0.05$), depression (adjusted OR 2.17[95% CI 1.22-3.87]; $p < 0.01$) and comorbid PTSD, anxiety and depression (adjusted OR 2.16[95% CI 1.07-4.36]; $p < 0.05$).

Accession Number: WOS:001467618000001

PubMed ID: 40231457

Language: English

Document Type: Article; Early Access

Author Keywords: Anxiety; Assam flood; depression; mental health; psychiatric comorbidity: post-traumatic stress disorder; 'loss stressors'

KeyWords Plus: MENTAL-HEALTH; PSYCHIATRIC COMORBIDITY; DISORDER; IMPACT; DISPLACEMENT; MORBIDITY; EXPOSURE; PTSD

Addresses: [Borah, Girimallika] Cotton Univ, Dept Geog, Gauhati, India.
[Saikia, Nandita] Jawaharlal Nehru Univ, CSRD, Delhi, India.

Corresponding Address: Borah, G (corresponding author), Cotton Univ, Dept Geog, Gauhati, India.

E-mail Addresses: girimallika.borah@cottonuniversity.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
, Cotton University, Assam, Girimallika Borah	KGK-4576-2024	

Publisher: CAMBRIDGE UNIV PRESS

Publisher Address: EDINBURGH BLDG, SHAFTESBURY RD, CB2 8RU CAMBRIDGE, ENGLAND

Web of Science Index: Social Science Citation Index (SSCI)

Web of Science Categories: Demography; Public, Environmental & Occupational Health; Social Sciences, Biomedical

Research Areas: Demography; Public, Environmental & Occupational Health; Biomedical Social Sciences

IDS Number: 1LD3L

ISSN: 0021-9320

eISSN: 1469-7599
29-char Source Abbrev.: J BIOSOC SCI
ISO Source Abbrev.: J. Biosoc. Sci.
Source Item Page Count: 29
Funding:

Funding Agency	Grant Number
ICMR	

We would like to record our appreciation for the participants of the study for taking their time out and participating in the study. We are grateful to Dr. Shyamanta Das, Uddip Talukdar and team for translation of PHQ 4 under an ICMR funded research project, and Uddip Talukdar for translation of PCL-5. Special thanks are due to field investigators Prahlad Borman and Ankur Borman from Bongaigaon for helping with field work.

Output Date: 2025-05-06

Record 13 of 33

Title: A pH-dependent direct sulfhydrylation pathway is required for the pathogenesis of Mycobacterium tuberculosis

Author(s): Nain, VK (Nain, Vaibhav Kumar); Barik, V (Barik, Vishawjeet); Pandey, M (Pandey, Manitosh); Pareek, M (Pareek, Mohit); Sharma, T (Sharma, Taruna); Pal, R (Pal, Rahul); Tyagi, S (Tyagi, Shaifali); Bajpai, M (Bajpai, Manish); Dwivedi, P (Dwivedi, Prabhanjan); Panda, BN (Panda, Bhishma Narayan); Kumar, Y (Kumar, Yashwant); Asthana, S (Asthana, Shailendra); Pandey, AK (Pandey, Amit Kumar)

Source: COMMUNICATIONS BIOLOGY **Volume:** 8 **Issue:** 1 **Article Number:** 637 **DOI:** 10.1038/s42003-025-08051-6 **Published Date:** 2025 APR 19

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: ADAMS JM, 1966, P NATL ACAD SCI USA, V55, P147, DOI 10.1073/pnas.55.1.147
Akhova AV, 2014, FEMS MICROBIOL LETT, V353, P69, DOI 10.1111/1574-6968.12405
Andreu N, 2010, PLOS ONE, V5, DOI 10.1371/journal.pone.0010777
Babunovic GH, 2022, MBIO, V13, DOI 10.1128/mbio.03683-21
Banerjee S, 2019, J BIOL CHEM, V294, P19862, DOI 10.1074/jbc.RA119.009449
Baugh L, 2015, TUBERCULOSIS, V95, P142, DOI 10.1016/j.tube.2014.12.003
Belfaiza J, 1998, J BACTERIOL, V180, P250, DOI 10.1128/JB.180.2.250-255.1998
Berger BJ, 2003, BMC MICROBIOL, V3, DOI 10.1186/1471-2180-3-12
Berman HM, 2000, NUCLEIC ACIDS RES, V28, P235, DOI 10.1093/nar/28.1.235
Berney M, 2015, P NATL ACAD SCI USA, V112, P10008, DOI 10.1073/pnas.1513033112
Bhaskar A, 2014, PLOS PATHOG, V10, DOI 10.1371/journal.ppat.1003902
Bowers K. J., 2006, P 2006 ACMIEEE C SUP, P84, DOI [DOI 10.1109/SC.2006.54, DOI 10.1145/1188455.118854, 10.1145/1188455.1188544, DOI 10.1145/1188455.1188544]
Brauner A, 2016, NAT REV MICROBIOL, V14, P320, DOI 10.1038/nrmicro.2016.34
Cai Y, 2021, PLOS PATHOG, V17, DOI 10.1371/journal.ppat.1008911
Chang JC, 2009, J BACTERIOL, V191, P5232, DOI 10.1128/JB.00452-09
Chaton CT, 2019, SCI REP-UK, V9, DOI 10.1038/s41598-019-56722-2
Chaudhary D, 2022, SCI REP-UK, V12, DOI 10.1038/s41598-022-16468-w

Choudhary E, 2022, ACS OMEGA, V7, P26749, DOI 10.1021/acsomega.2c03092
Cole ST, 1998, NATURE, V393, P537, DOI 10.1038/31159
FOGLINO M, 1995, MICROBIOL-UK, V141, P431, DOI 10.1099/13500872-141-2-431
FOLCH J, 1957, J BIOL CHEM, V226, P497
Gouzy A, 2021, P NATL ACAD SCI USA, V118, DOI 10.1073/pnas.2024571118
Griffin JE, 2012, CHEM BIOL, V19, P218, DOI 10.1016/j.chembiol.2011.12.016
Griffin JE, 2011, PLOS PATHOG, V7, DOI 10.1371/journal.ppat.1002251
Hasenoehrl EJ, 2019, NAT COMMUN, V10, DOI 10.1038/s41467-019-12224-3
Hatzios SK, 2011, PLOS PATHOG, V7, DOI 10.1371/journal.ppat.1002036
Howe MD, 2018, FRONT CELL INFECT MI, V8, DOI 10.3389/fcimb.2018.00399
Huerta-Cepas J, 2019, NUCLEIC ACIDS RES, V47, pD309, DOI 10.1093/nar/gky1085
Humphrey W, 1996, J MOL GRAPH MODEL, V14, P33, DOI 10.1016/0263-7855(96)00018-5
Hwang BJ, 2002, J BACTERIOL, V184, P1277, DOI 10.1128/JB.184.5.1277-1286.2002
Jacobson MP, 2004, PROTEINS, V55, P351, DOI 10.1002/prot.10613
Khan MZ, 2021, EMBO J, V40, DOI 10.15252/embj.2020106111
Kim JM, 2018, SCIENCE, V362, P1019, DOI 10.1126/science.aat0174
Kumari A, 2023, J PHYS CHEM B, V127, P465, DOI 10.1021/acs.jpcb.2c06325
Kunota TTR, 2021, ANTIOXIDANTS-BASEL, V10, DOI 10.3390/antiox10081285
Lee HS, 2003, APPL MICROBIOL BIOT, V62, P459, DOI 10.1007/s00253-003-1306-7
LOEWEN PC, 1979, CAN J BIOCHEM CELL B, V57, P107, DOI 10.1139/o79-013
Mehta M, 2016, J BIOL CHEM, V291, P2888, DOI 10.1074/jbc.M115.684597
Mishra R, 2019, SCI TRANSL MED, V11, DOI 10.1126/scitranslmed.aaw6635
Mittal L, 2021, ARCH BIOCHEM BIOPHYS, V713, DOI 10.1016/j.abb.2021.109059
Morris GM, 2009, J COMPUT CHEM, V30, P2785, DOI 10.1002/jcc.21256
Murphy Kenan C, 2015, Methods Mol Biol, V1285, P177, DOI 10.1007/978-1-4939-2450-9_10
Nambi S, 2015, CELL HOST MICROBE, V17, P829, DOI 10.1016/j.chom.2015.05.008
Pandey AK, 2008, P NATL ACAD SCI USA, V105, P4376, DOI 10.1073/pnas.0711159105
Quinonez CG, 2022, MBIO, V13, DOI 10.1128/mbio.03559-21
Rahman A, 2020, FRONT CELL INFECT MI, V10, DOI 10.3389/fcimb.2020.586923
Rahman MA, 2020, P NATL ACAD SCI USA, V117, P6663, DOI 10.1073/pnas.1919211117
Rohde KH, 2012, PLOS PATHOG, V8, DOI 10.1371/journal.ppat.1002769
Saini V, 2020, NAT COMMUN, V11, DOI 10.1038/s41467-019-14132-y
Sastry GM, 2013, J COMPUT AID MOL DES, V27, P221, DOI 10.1007/s10822-013-9644-8
Schmittgen TD, 2008, NAT PROTOC, V3, P1101, DOI 10.1038/nprot.2008.73
Singh S, 2019, J BIOL CHEM, V294, P10055, DOI 10.1074/jbc.RA118.005312
Smith DA, 2001, INFECT IMMUN, V69, P1142, DOI 10.1128/IAI.69.2.1442-1150.2001
Srivastava Mitul, 2018, Oncotarget, V9, P34289, DOI 10.18632/oncotarget.26136
THOMPSON JD, 1994, NUCLEIC ACIDS RES, V22, P4673, DOI 10.1093/nar/22.22.4673
Tripathi AS, 2022, PLOS PATHOG, V18, DOI 10.1371/journal.ppat.1010475
van Kessel JC, 2007, NAT METHODS, V4, P147, DOI 10.1038/nmeth996
Venos ES, 2004, BMC MICROBIOL, V4, DOI 10.1186/1471-2180-4-39
Vocat A, 2015, ANTIMICROB AGENTS CH, V59, P4012, DOI 10.1128/AAC.00528-15
Wheeler PR, 2005, J BIOL CHEM, V280, P8069, DOI 10.1074/jbc.M412540200
WHO, 2024, Global TB Report 2023
Yelamanchi SD, 2021, IUBMB LIFE, V73, P643, DOI 10.1002/iub.2455

Cited Reference Count: 62

Abstract: Methionine is essential for the growth and survival of Mycobacterium tuberculosis (M. tuberculosis), however, the canonical transsulfuration pathway involved in the biosynthesis of methionine is dispensable, suggesting redundancy. This study explores the presence of an ortholog of O-succinyl homoserine sulfhydrylase in M. tuberculosis, which catalyses direct sulfhydrylation for methionine

biosynthesis. Bioinformatics analysis of putative O-succinyl homoserine sulfhydrylase encoded by metZ in M. tuberculosis showed similarities with its orthologues in other bacterial species. Here, we show that metZ deletion in M. tuberculosis resulted in impaired growth under acidic conditions, which was reversed by methionine supplementation. Molecular dynamics simulation studies revealed improved binding of substrate, O-succinyl homoserine, to the active site of MetZ at low pH mimicking the phagosomal microenvironment. Intriguingly, despite higher ATP levels, metZ deletion reduced the frequency of Bedaquiline-induced persister formation. Finally, we demonstrate that loss of metZ hinders M. tuberculosis growth inside the host.

Accession Number: WOS:001469999500005

PubMed ID: 40253528

Language: English

Document Type: Article

KeyWords Plus: METHIONINE BIOSYNTHESIS; CORYNEBACTERIUM-GLUTAMICUM; PROTEIN; TRANSSULFURATION; PERSISTENCE; REVEALS

Addresses: [Nain, Vaibhav Kumar; Barik, Vishawjeet; Pandey, Manitosh; Sharma, Taruna; Pal, Rahul; Tyagi, Shaifali; Pandey, Amit Kumar] Translat Hlth Sci & Technol Inst, Ctr TB Res, Mycobacterial Pathogenesis Lab, BRIC, Faridabad, Haryana, India.
[Nain, Vaibhav Kumar; Barik, Vishawjeet; Sharma, Taruna] Jawaharlal Nehru Univ, Special Ctr Mol Med, New Delhi, India.
[Pareek, Mohit; Asthana, Shailendra] Translat Hlth Sci & Technol Inst, Computat & Math Biol Ctr, BRIC, Computat Biophys & CADD Grp, Faridabad, Haryana, India.
[Bajpai, Manish; Kumar, Yashwant] Translat Hlth Sci & Technol Inst, Ctr Drug Discovery, Biomarker Discovery Lab, BRIC, Faridabad, Haryana, India.
[Dwivedi, Prabhanjan; Panda, Bhishma Narayan; Pandey, Amit Kumar] Translat Hlth Sci & Technol Inst, Expt Anim Facil, BRIC, Faridabad, Haryana, India.

Corresponding Address: Pandey, AK (corresponding author), Translat Hlth Sci & Technol Inst, Ctr TB Res, Mycobacterial Pathogenesis Lab, BRIC, Faridabad, Haryana, India.
Pandey, AK (corresponding author), Translat Hlth Sci & Technol Inst, Expt Anim Facil, BRIC, Faridabad, Haryana, India.

E-mail Addresses: amitpandey@thsti.res.in

Affiliations: Department of Biotechnology (DBT) India; Translational Health Science & Technology Institute (THSTI); Jawaharlal Nehru University, New Delhi; Department of Biotechnology (DBT) India; Translational Health Science & Technology Institute (THSTI); Department of Biotechnology (DBT) India; Translational Health Science & Technology Institute (THSTI); Department of Biotechnology (DBT) India; Translational Health Science & Technology Institute (THSTI)

Publisher: NATURE PORTFOLIO

Publisher Address: HEIDELBERGER PLATZ 3, BERLIN, 14197, GERMANY

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Biology; Multidisciplinary Sciences

Research Areas: Life Sciences & Biomedicine - Other Topics; Science & Technology - Other Topics

IDS Number: 1OQ7J

eISSN: 2399-3642

29-char Source Abbrev.: COMMUN BIOL

ISO Source Abbrev.: Commun. Biol.

Source Item Page Count: 15

Funding:

Funding Agency	Grant Number
Indian Council of Medical Research (ICMR)	EM/Dev/SG/212/7864/2023
THSTI	
Indian Council of Medical Research (ICMR), Government of India	3/1/3/JRF-2018/HRD-043/64467
ICMR	09/1049(0036)/2019-EMR-I
CSIR	

The authors acknowledge THSTI for infrastructural support, the Experimental Animal Facility (and staff) for supporting animal experimentations and BSL-3 facility (and staff) for all M. tuberculosis related experiments. Technical support of Mr. Surjit Yadav and Mr. Sharad Dwivedi is duly acknowledged. We acknowledge the Multi-Omics facility for LC-MS based experiments. We also duly acknowledge the receipt of plasmids and constructs used in the study (Supplementary Information). This study was supported by the grant (No. EM/Dev/SG/212/7864/2023) from the Indian Council of Medical Research (ICMR), Government of India, and intramural funding by BRIC-THSTI to A.K.P. and is duly acknowledged. VKN was supported by the research fellowship from ICMR: 3/1/3/JRF-2018/HRD-043/64467. VB is supported by the research fellowship from CSIR: 09/1049(11494)/2021-EMR-I. TS was supported by the research fellowship from CSIR: 09/1049(0036)/2019-EMR-I.

Open Access: gold

Output Date: 2025-05-06

Record 14 of 33

Title: Sustainable synthesis of a PtNPs@rGO nanohybrid for detection of toxic fluoride ions using hand-made screen-printed electrodes in aqueous medium

Author(s): Verma, D (Verma, Damini); Yadav, AK (Yadav, Amit K.); Gupta, KK (Gupta, Kunal Kumar); Solanki, PR (Solanki, Pratima R.)

Source: JOURNAL OF MATERIALS CHEMISTRY B **Volume:** 13 **Issue:** 17 **Pages:** 5070-5084 **DOI:** 10.1039/d4tb02115k **Early Access Date:** APR 2025 **Published Date:** 2025 MAY 1

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 2

Usage Count (Since 2013): 2

Cited References: Adil SF, 2015, DALTON T, V44, P9709, DOI 10.1039/c4dt03222e
Ambaye AD, 2023, MATER TODAY COMMUN, V35, DOI 10.1016/j.mtcomm.2023.105567
Appiah-Ntiamoah R, 2018, NEW J CHEM, V42, P12263, DOI 10.1039/c8nj90059k
Bandodkar AJ, 2014, TRENDS BIOTECHNOL, V32, P363, DOI 10.1016/j.tibtech.2014.04.005
Bolhan A., 2018, Malay. J. Catal, V3, DOI [10.11113/mjcat.v3n1.88, DOI 10.11113/MJCAT.V3N1.88]
Cametti M., 2009, Chem. Commun., V2809, P2829
Chaudhary N, 2024, MATER ADV, V5, P1597, DOI 10.1039/d3ma00556a
Chaudhary N, 2023, TALANTA OPEN, V8, DOI 10.1016/j.talo.2023.100259
Chaudhary N, 2021, J ENVIRON CHEM ENG, V9, DOI 10.1016/j.jece.2021.106771
Chen C, 2013, SCI CHINA CHEM, V56, P354, DOI 10.1007/s11426-012-4702-y
Cho IH, 2020, BIOMATER RES, V24, DOI 10.1186/s40824-019-0181-y
Culková E, 2014, ELECTROCHIM ACTA, V148, P317, DOI 10.1016/j.electacta.2014.09.158
Ding C., 2023, J. Fluoresc., V1, P16
Duan HH, 2015, CHEM SOC REV, V44, P5778, DOI 10.1039/c4cs00363b

Eda G, 2010, ADV MATER, V22, P2392, DOI 10.1002/adma.200903689
Ettadili FE, 2022, J MOL STRUCT, V1248, DOI 10.1016/j.molstruc.2021.131538
Fahmy SA, 2020, MOLECULES, V25, DOI 10.3390/molecules25214981
Ghosh A., 2021, Funct. Nanomater. Catal. Appl., V303, P328
Hanumanthaiah P., 2020, Arab. J. Med. Aromat. Plants, V6, P105, DOI 10.48347/IMIST.PRSM/ajmap-v6i1.20401
ifti H., 2014, Talanta, V126, P202
Ishak NAIM, 2021, J ADV RES, V28, P63, DOI 10.1016/j.jare.2020.06.025
Jadoun S, 2021, ENVIRON CHEM LETT, V19, P355, DOI 10.1007/s10311-020-01074-x
Jameel MS, 2020, GREEN PROCESS SYNTH, V9, P386, DOI 10.1515/gps-2020-0041
Kasturi S, 2020, RSC ADV, V10, P13722, DOI 10.1039/d0ra00541j
Kaur N, 2019, SPECTROCHIM ACTA A, V223, DOI 10.1016/j.saa.2019.117361
Kim HN, 2011, CHEM SOC REV, V40, P79, DOI 10.1039/c0cs00058b
Krishnamurthy S, 2009, J BIOSCI BIOENG, V108, pS91, DOI 10.1016/j.jbiosc.2009.08.269
Kumar P. V., 2018, Int. J. Recent Res. Asp, P608
Li YM, 2001, J BONE MINER RES, V16, P932, DOI 10.1359/jbmr.2001.16.5.932
Long Y, 2011, J MATER CHEM, V21, P13934, DOI 10.1039/c1jm12031j
Maikap A, 2018, ELECTROCHIM ACTA, V264, P150, DOI 10.1016/j.electacta.2018.01.055
Malet-Martino M, 2006, CLIN CHIM ACTA, V366, P61, DOI 10.1016/j.cca.2005.10.013
Mani V, 2015, TALANTA, V131, P121, DOI 10.1016/j.talanta.2014.07.074
Mukherjee S, 2020, ACS OMEGA, V5, P25253, DOI 10.1021/acsomega.0c03465
Pagliano E, 2013, ANAL CHEM, V85, P877, DOI 10.1021/ac302303r
Paisanpisuttisin A, 2022, RSC ADV, V12, P29491, DOI 10.1039/d2ra03918d
Pang PF, 2015, ANAL METHODS-UK, V7, P3581, DOI [10.1039/c5ay00353a, 10.1039/C5AY00353A]
Patyal M, 2023, ENVIRON POLLUT, V336, DOI 10.1016/j.envpol.2023.122420
Prabhu N., 2017, IOSR J. Biotechnol. Biochem, V3, P107, DOI DOI 10.9790/264X-0301107112
Pushparajah S, 2023, MATERIALS, V16, DOI 10.3390/ma16247622
Saware K, 2014, J CLUST SCI, V25, P1157, DOI 10.1007/s10876-014-0697-1
Shahid MM, 2019, MAT SCI ENG C-MATER, V100, P388, DOI 10.1016/j.msec.2019.02.107
Shen YM, 2018, SENSOR ACTUAT B-CHEM, V258, P544, DOI 10.1016/j.snb.2017.11.124
Singh D, 2024, INT J BIOL MACROMOL, V265, DOI 10.1016/j.ijbiomac.2024.130867
Swami P, 2022, BIOSENS BIOELECTRON, V200, DOI 10.1016/j.bios.2021.113876
Talbi M, 2022, CHEMOSENSORS, V10, DOI 10.3390/chemosensors10020040
Tao J, 2016, ANAL CHIM ACTA, V918, P97, DOI 10.1016/j.aca.2016.03.025
Verma D., 2023, MICROCHEM J, DOI DOI 10.1016/j.microc.2023.108964
Verma D, 2024, MATER ADV, V5, P2153, DOI 10.1039/d3ma00438d
Verma D, 2023, IEEE SENSOR LETT, V7, DOI 10.1109/LSENS.2023.3330915
Verma D, 2022, ENVIRON SCI-NANO, V9, P3992, DOI 10.1039/d2en00624c
Verma D, 2021, J APPL ELECTROCHEM, V51, P447, DOI 10.1007/s10800-020-01511-3
Verma D, 2021, J ELECTROCHEM SOC, V168, DOI 10.1149/1945-7111/ac218a
Verma D, 2021, J ENVIRON CHEM ENG, V9, DOI 10.1016/j.jece.2021.105504
Verma R, 2024, SURF INTERFACES, V49, DOI 10.1016/j.surfin.2024.104406
Verma R, 2023, ACS APPL BIO MATER, V6, P5842, DOI 10.1021/acsabm.3c00968
Le VH, 2020, INT J PHOTOENERGY, V2020, DOI 10.1155/2020/8927124
Wagassa AN, 2023, ENVIRON SCI POLLUT R, V30, P119084, DOI 10.1007/s11356-023-30723-1
Wang XW, 2017, ANGEW CHEM INT EDIT, V56, P11826, DOI 10.1002/anie.201706147
Wani R. B., 2023, J. Pharm. Negat. Results, P7260
wik P., 2014, Talanta, V119, P5
Xiang GL, 2011, NANOSCALE, V3, P3737, DOI 10.1039/c1nr10439j
Xiang QJ, 2012, CHEM SOC REV, V41, P782, DOI 10.1039/c1cs15172j
Yadav AK, 2021, MATER TODAY CHEM, V22, DOI 10.1016/j.mtchem.2021.100567

Yadav AK, 2023, ACS APPL BIO MATER, V6, P4250, DOI 10.1021/acsabm.3c00464
Yadav AK, 2023, INT J BIOL MACROMOL, V239, DOI 10.1016/j.ijbiomac.2023.124325
Yadav AK, 2021, FOOD CHEM, V363, DOI 10.1016/j.foodchem.2021.130245
Yan FY, 2020, MICROCHIM ACTA, V187, DOI 10.1007/s00604-020-04318-3
Yue XM, 2019, ACS SENSORS, V4, P2336, DOI 10.1021/acssensors.9b00881
Zheng BY, 2013, J COLLOID INTERF SCI, V396, P138, DOI 10.1016/j.jcis.2013.01.021
Zhou Y, 2014, CHEM REV, V114, P5511, DOI 10.1021/cr400352m

Cited Reference Count: 71

Abstract: High fluoride (F-) concentrations in groundwater affect over 200 million people across 25 countries, making accurate detection and quantification of fluoride in water essential for safety assessment. There is a growing demand for advanced water quality testing systems that provide real-time, location-specific data without requiring specialized expertise. This study presents the development of a simple, eco-friendly, and cost-effective nanosensor for electrochemical F- detection in environmental water samples. To our knowledge, this is the first report on the green synthesis of platinum nanoparticles (PtNPs) using Ficus religiosa (sacred fig) leaf extract via a co-precipitation method. Additionally, PtNPs were synthesized ex situ and decorated on reduced graphene oxide (rGO) to form a nanohybrid using ultrasonication. The PtNPs@rGO nanohybrid was then deposited on a disposable screen-printed carbon electrode (SPCE) to fabricate the PtNPs@rGO/SPCE nanosensor using a drop-casting technique. This approach enhances the specificity and sensitivity of the sensor, addressing current analytical challenges. The PtNPs@rGO nanohybrid was characterized by Fourier transform infrared spectroscopy (FTIR), high-resolution transmission electron microscopy (HRTEM), X-ray diffraction (XRD), scanning electron microscopy-energy dispersive X-ray (SEM-EDX) analysis, contact angle (CA) measurement, and electrochemical techniques such as differential pulse voltammetry (DPV) and cyclic voltammetry (CV). The PtNPs@rGO/SPCE nanosensor exhibited a wide linear range from 0.001 to 160 mu M for F- concentrations, with a limit of detection of 10 nM and a limit of quantification of 0.036 mu M. The sensitivity was 4.126 mu A mu M-1 cm-2. The sensor demonstrated excellent reproducibility and strong anti-interference properties. It was successfully applied for F- detection in tap, drain, and tube well water samples, yielding satisfactory recoveries, and its performance surpasses those of previously reported sensors for aqueous F- sensing.

Accession Number: WOS:001463815800001

PubMed ID: 40214664

Language: English

Document Type: Article

KeyWords Plus: GRAPHENE OXIDE; ELECTROCHEMICAL SENSOR; CARBON ELECTRODE; PLATINUM; NANOPARTICLES; FLUORESCENT; HYDROXIDE; MECHANISM; OXIDATION; EXTRACT

Addresses: [Verma, Damini; Yadav, Amit K.; Solanki, Pratima R.] Jawaharlal Nehru Univ, Special Ctr Nanosci, Nanobio Lab, New Delhi 110067, India.
[Gupta, Kunal Kumar] Vinoba Bhave Univ, Dept Biotechnol, Hazaribagh 825301, Jharkhand, India.

Corresponding Address: Solanki, PR (corresponding author), Jawaharlal Nehru Univ, Special Ctr Nanosci, Nanobio Lab, New Delhi 110067, India.

E-mail Addresses: pratimarsolanki@gmail.com

Affiliations: Jawaharlal Nehru University, New Delhi; Special Centre for Nanoscience, Jawaharlal Nehru University; Vinoba Bhave University

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Yadav, Amit	ABH-4068-2020	
Solanki, Pratima	N-1041-2013	

Publisher: ROYAL SOC CHEMISTRY

Publisher Address: THOMAS GRAHAM HOUSE, SCIENCE PARK, MILTON RD, CAMBRIDGE CB4 0WF, CAMBS, ENGLAND

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Materials Science, Biomaterials

Research Areas: Materials Science

IDS Number: 2CM9O

ISSN: 2050-750X

eISSN: 2050-7518

29-char Source Abbrev.: J MATER CHEM B

ISO Source Abbrev.: J. Mat. Chem. B

Source Item Page Count: 15

Funding:

Funding Agency	Grant Number
Department of Science and Technology, Ministry of Science and Technology, India	
Biomedical Device and Technology Development (BDTD) Project, DST, New Delhi, India - Ministry of Education, Government of India	

The authors acknowledge the Advanced Instrumentation Research Facility (AIRF), JNU, New Delhi, for providing the characterization facilities, and the Biomedical Device and Technology Development (BDTD) Project, DST, New Delhi, India, for providing financial support to carry out this research work. Amit K. Yadav expresses gratitude for the financial support provided by the Prime Minister Research Fellowship, funded by the Ministry of Education, Government of India.

Output Date: 2025-05-06

Record 15 of 33

Title: Review of MXene-Based Nanocomposites for Gas Sensing

Author(s): Rawat, A (Rawat, Ankita); Chourasia, NK (Chourasia, Nitesh K.); Rajput, G (Rajput, Gaurav); Kulriya, PK (Kulriya, P. K.)

Source: ACS APPLIED NANO MATERIALS **DOI:** 10.1021/acsanm.4c07201 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 21

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Aghaei SM, 2021, ACS OMEGA, V6, P2450, DOI 10.1021/acsomega.0c05766
Alhabeb M, 2017, CHEM MATER, V29, P7633, DOI 10.1021/acs.chemmater.7b02847
Ali MA, 2022, COMPOS SCI TECHNOL, V227, DOI 10.1016/j.compscitech.2022.109623
Anasori Babak, 2022, Graphene and 2D Materials, P75, DOI 10.1007/s41127-022-00053-z
Anasori B, 2015, ACS NANO, V9, P9507, DOI 10.1021/acsnano.5b03591
Ansari HR, 2023, J MATER CHEM C, V11, P6528, DOI 10.1039/d3tc00806a
Aslfattahi N, 2020, J ENERGY STORAGE, V27, DOI 10.1016/j.est.2019.101115
Assar M, 2016, J COLLOID INTERF SCI, V483, P275, DOI 10.1016/j.jcis.2016.08.045
Atkare S, 2024, MATER ADV, V5, P1440, DOI 10.1039/d3ma00890h

Bag S, 2020, SENSOR ACTUAT B-CHEM, V303, DOI 10.1016/j.snb.2019.127115
Barsoum MW, 2011, ANNU REV MATER RES, V41, P195, DOI 10.1146/annurev-matsci-062910-100448
Benchakar M, 2020, APPL SURF SCI, V530, DOI 10.1016/j.apsusc.2020.147209
Cao W, 2024, CHEM ENG J, V496, DOI 10.1016/j.cej.2024.154097
Chaudhary V, 2023, SENSOR ACTUAT B-CHEM, V379, DOI 10.1016/j.snb.2022.133225
Chen WY, 2020, ACS NANO, V14, P11490, DOI 10.1021/acsnano.0c03896
Chen WY, 2020, NAT COMMUN, V11, DOI 10.1038/s41467-020-15092-4
Chen Y, 2024, TALANTA, V280, DOI 10.1016/j.talanta.2024.126700
Cho SY, 2018, J MATER CHEM A, V6, P23408, DOI 10.1039/c8ta07168c
Choi J, 2022, ACS SENSORS, V7, P2225, DOI 10.1021/acssensors.2c00658
Choudhury RK, 2022, APPL SURF SCI, V603, DOI 10.1016/j.apsusc.2022.154426
Chourasia NK, 2023, MATER ADV, V4, P5948, DOI 10.1039/d3ma00631j
Christinelli WA, 2021, SENSOR ACTUAT B-CHEM, V336, DOI 10.1016/j.snb.2021.129696
Das S, 2024, ACS APPL NANO MATER, V7, P13893, DOI 10.1021/acsanm.4c02127
Deepti, 2019, SENSOR ACTUAT B-CHEM, V301, DOI 10.1016/j.snb.2019.127006
Doan THP, 2021, RSC ADV, V11, P7492, DOI 10.1039/d0ra10879k
Dong JY, 2023, J ALLOY COMPD, V966, DOI 10.1016/j.jallcom.2023.171642
Eom W, 2017, PART PART SYST CHAR, V34, DOI 10.1002/ppsc.201600401
Fan BM, 2023, ADV SCI, V10, DOI 10.1002/advs.202300273
Gai LY, 2022, RARE METALS, V41, P1818, DOI 10.1007/s12598-021-01937-4
Gasso S, 2022, ACS SENSORS, V7, P2454, DOI 10.1021/acssensors.2c01213
Gautam YK, 2021, ROY SOC OPEN SCI, V8, DOI 10.1098/rsos.201324
Ghidiu M, 2014, NATURE, V516, P78, DOI 10.1038/nature13970
Gul S, 2021, SURF INTERFACES, V24, DOI 10.1016/j.surfin.2021.101074
Guo FQ, 2023, SENSOR ACTUAT B-CHEM, V375, DOI 10.1016/j.snb.2022.132885
Guo SQ, 2019, MIDWEST SYMP CIRCUIT, P884, DOI [10.1109/MWSCAS.2019.8885301, 10.1109/mwscas.2019.8885301]
Guo WZ, 2020, ACS APPL MATER INTER, V12, P57218, DOI 10.1021/acsami.0c16302
Guo ZL, 2015, PHYS CHEM CHEM PHYS, V17, P15348, DOI 10.1039/c5cp00775e
Hajian Sajjad, 2018, 2018 IEEE Sensors, DOI 10.1109/ICSENS.2018.8589699
Hajian S., Frontiers in Sensors, P2022, DOI [10.3389/fsens.2022.1006749, DOI 10.3389/FSENS.2022.1006749]
Han F, 2019, ACS APPL MATER INTER, V11, P8443, DOI 10.1021/acsami.8b22339
Hantanasirisakul K., 2023, MXenes, P135, DOI [10.1201/9781003306511-10, DOI 10.1201/9781003306511-10]
He H, 2023, NANO ENERGY, V118, DOI 10.1016/j.nanoen.2023.108965
Hermawan A, 2021, ADV HEALTHC MATER, V10, DOI 10.1002/adhm.202100970
Hermawan A, 2020, ACS APPL NANO MATER, V3, P4755, DOI 10.1021/acsanm.0c00749
Hilal M, 2024, NANO-MICRO LETT, V16, DOI 10.1007/s40820-023-01316-x
Hu T, 2015, SCI REP-UK, V5, DOI 10.1038/srep16329
Huang SR, 2023, APPL PHYS REV, V10, DOI 10.1063/5.0132177
Huang SR, 2022, ADV INTELL SYST-GER, V4, DOI 10.1002/aisy.202200016
Huang SH, 2019, INORG CHEM, V58, P1958, DOI 10.1021/acs.inorgchem.8b02890
Iqbal A, 2021, MATERIALS, V14, DOI 10.3390/ma14216292
Iravani S, 2021, MATER ADV, V2, P2906, DOI 10.1039/d1ma00189b
Ji Y, 2023, CERAM INT, V49, P17354, DOI 10.1016/j.ceramint.2023.02.103
Jia L, 2023, CHEM ENG J, V475, DOI 10.1016/j.cej.2023.146361
Jiang JZ, 2022, NANO RES, V15, P6551, DOI 10.1007/s12274-022-4312-8
Jing HY, 2021, ACS NANO, V15, P1388, DOI 10.1021/acsnano.0c08664
John RAB, 2023, SENSORS-BASEL, V23, DOI 10.3390/s23218674
Khaledialidusti R, 2020, J MATER CHEM C, V8, P4771, DOI 10.1039/c9tc06046d

Khazaei M, 2017, J MATER CHEM C, V5, P2488, DOI 10.1039/c7tc00140a
Kim SJ, 2019, ACS APPL MATER INTER, V11, P32320, DOI 10.1021/acsami.9b12539
Kim SJ, 2018, ACS NANO, V12, P986, DOI 10.1021/acsnano.7b07460
Kim S, 2021, ACS APPL NANO MATER, V4, P14249, DOI 10.1021/acsanm.1c03814
Koh HJ, 2019, ACS SENSORS, V4, P1365, DOI 10.1021/acssensors.9b00310
Kong W, 2022, J MATER CHEM A, V10, P14674, DOI 10.1039/d2ta00613h
Krivetskiy VV, 2021, SENSOR ACTUAT B-CHEM, V329, DOI 10.1016/j.snb.2020.129187
Kumar AN, 2022, MATER ADV, V3, P5151, DOI 10.1039/d2ma00301e
Kumar R, 2018, NANOTECHNOLOGY, V29, DOI 10.1088/1361-6528/aade20
Kumar S, 2021, SCI REP-UK, V11, DOI 10.1038/s41598-020-80799-9
Lam KC, 2017, J MATER CHEM A, V5, P11131, DOI 10.1039/c7ta01293d
Lee E, 2019, ACS SENSORS, V4, P1603, DOI 10.1021/acssensors.9b00303
Lee E, 2017, ACS APPL MATER INTER, V9, P37184, DOI 10.1021/acsami.7b11055
Lee HJ, 2021, ACS NANO, V15, P10347, DOI 10.1021/acsnano.1c02567
Lee SH, 2020, ACS APPL MATER INTER, V12, P10434, DOI 10.1021/acsami.9b21765
Lee Y, 2020, J MATER CHEM A, V8, P573, DOI 10.1039/c9ta07036b
Lee ZY, 2021, MATERIALS, V14, DOI 10.3390/ma14030522
Li DS, 2021, SENSOR ACTUAT B-CHEM, V331, DOI 10.1016/j.snb.2020.129414
Li J, 2024, SENS DIAGN, V3, P336, DOI 10.1039/d3sd00226h
Li QQ, 2023, ACS APPL MATER INTER, V15, P19435, DOI 10.1021/acsami.3c00432
Li QT, 2021, CHEMOSENSORS, V9, DOI 10.3390/chemosensors9080225
Li TK, 2019, J MATER CHEM C, V7, P1022, DOI 10.1039/c8tc04893b
Liao C., 2018, Int.J. Mol. Sci, V19, P1170
Lim GP, 2022, CERAM INT, V48, P16477, DOI 10.1016/j.ceramint.2022.03.165
Ling Z, 2014, P NATL ACAD SCI USA, V111, P16676, DOI 10.1073/pnas.1414215111
Lipatov A, 2020, ADV ELECTRON MATER, V6, DOI 10.1002/aelm.201901382
Lipatov A, 2016, ADV ELECTRON MATER, V2, DOI 10.1002/aelm.201600255
Liu HB, 2021, ACS OMEGA, V6, P30598, DOI 10.1021/acsomega.1c04350
Liu Miao, 2022, Journal of Alloys and Compounds, DOI 10.1016/j.jallcom.2021.162812
Liu M, 2023, ACS APPL NANO MATER, V6, P11856, DOI 10.1021/acsanm.3c01744
Liu MZ, 2022, APPL SURF SCI, V605, DOI 10.1016/j.apsusc.2022.154830
Liu SW, 2022, SENSOR ACTUAT B-CHEM, V365, DOI 10.1016/j.snb.2022.131919
Liu X, 2024, CERAM INT, V50, P2459, DOI 10.1016/j.ceramint.2023.11.032
Loes MJ, 2024, ACS NANO, V18, P26251, DOI 10.1021/acsnano.4c08225
Lu BB, 2021, SMALL, V17, DOI 10.1002/smll.202100946
Lu B, 2024, ADV SCI, V11, DOI 10.1002/advs.202305277
Luo MY, 2024, J ALLOY COMPD, V1006, DOI 10.1016/j.jallcom.2024.176340
Luo MY, 2024, J MATER CHEM A, V12, P12225, DOI 10.1039/d4ta00842a
Luo YF, 2023, ACS NANO, V17, P5211, DOI 10.1021/acsnano.2c12606
Ma C, 2021, ADV FUNCT MATER, V31, DOI 10.1002/adfm.202009524
Ma SH, 2017, J PHYS CHEM C, V121, P24077, DOI 10.1021/acs.jpcc.7b07921
Mahajan A, 2023, ACS APPL NANO MATER, V6, P6678, DOI 10.1021/acsanm.3c00425
Majhi SM, 2023, SCI REP-UK, V13, DOI 10.1038/s41598-023-30002-6
Mallakpour S, 2021, CERAM INT, V47, P26585, DOI 10.1016/j.ceramint.2021.06.107
Mathew M, 2021, J MATER SCI, V56, P9575, DOI 10.1007/s10853-021-05884-4
Mathew M, 2021, J MATER CHEM C, V9, P395, DOI 10.1039/d0tc04840b
Mathis TS, 2021, ACS NANO, V15, P6420, DOI 10.1021/acsnano.0c08357
Mennel L, 2020, NATURE, V579, P62, DOI 10.1038/s41586-020-2038-x
Nag R, 2023, ACS APPL ELECTRON MA, V5, P4759, DOI 10.1021/acsaelm.3c00392
Naguib M., 2023, Two-dimensional nanocrystals produced by exfoliation ofTi>3AlC>2, P15
Naguib M, 2021, ADV MATER, V33, DOI 10.1002/adma.202103393

Naguib M, 2012, ACS NANO, V6, P1322, DOI 10.1021/nn204153h
Nahirniak S, 2022, SENSORS-BASEL, V22, DOI 10.3390/s22030972
Nam MS, 2024, SENSOR ACTUAT B-CHEM, V404, DOI 10.1016/j.snb.2023.135189
Naqvi SR, 2020, APPL MATER TODAY, V19, DOI 10.1016/j.apmt.2020.100574
Natu V, 2018, J PHYS CHEM C, V122, P27745, DOI 10.1021/acs.jpcc.8b08860
Ng VMH, 2017, J MATER CHEM A, V5, P8769, DOI 10.1039/c7ta90088k
Tran NM, 2021, MATER CHEM PHYS, V273, DOI 10.1016/j.matchemphys.2021.125087
Otgonbayar Z, 2023, NANOMATERIALS-BASEL, V13, DOI 10.3390/nano13050919
Pak Y, 2014, ACS APPL MATER INTER, V6, P13293, DOI 10.1021/am503105s
Pang JB, 2019, CHEM SOC REV, V48, P72, DOI 10.1039/c8cs00324f
Pasupuleti KS, 2023, ACS MATER LETT, V5, P2739, DOI 10.1021/acsmaterialslett.3c00698
Patra S, 2023, SURF INTERFACES, V39, DOI 10.1016/j.surfin.2023.102969
Paul JT, 2017, J PHYS-CONDENS MAT, V29, DOI 10.1088/1361-648X/aa9305
Pazniak H, 2021, ADV MATER, V33, DOI 10.1002/adma.202104878
Pei YY, 2021, ACS NANO, V15, P3996, DOI 10.1021/acsnano.1c00248
Perkins FK, 2013, NANO LETT, V13, P668, DOI 10.1021/nl3043079
Persson I, 2018, SMALL, V14, DOI 10.1002/smll.201703676
Qian CF, 2022, INT J ENERG RES, V46, P21511, DOI 10.1002/er.7833
Qiao LJ, 2023, J ADV CERAM, V12, P1902, DOI 10.26599/JAC.2023.9220796
Quan WJ, 2023, ACS SENSORS, V8, P103, DOI 10.1021/acssensors.2c01748
Ta QTH, 2022, MICROMACHINES-BASEL, V13, DOI 10.3390/mi13101710
Rajput G, 2025, NANOTECHNOLOGY, V36, DOI 10.1088/1361-6528/adb4f9
Rakhi RB, 2016, SCI REP-UK, V6, DOI 10.1038/srep36422
Rawat A., 2022, Smart Nanostructure Materialsand Sensor Technology, P161
Rawat A, 2024, J APPL PHYS, V135, DOI 10.1063/5.0189641
Rawat A, 2023, MATER ADV, V4, P6427, DOI 10.1039/d3ma00429e
Riazi H, 2021, ACS OMEGA, V6, P11103, DOI 10.1021/acsomega.0c05828
Rodrigues J, 2023, MATER CHEM PHYS, V305, DOI 10.1016/j.matchemphys.2023.127972
Ronchi RM, 2019, CERAM INT, V45, P18167, DOI 10.1016/j.ceramint.2019.06.114
Sang XH, 2016, ACS NANO, V10, P9193, DOI 10.1021/acsnano.6b05240
Sardana S, 2023, SENSOR ACTUAT B-CHEM, V394, DOI 10.1016/j.snb.2023.134352
Seyedin S, 2017, J MATER CHEM A, V5, P24076, DOI 10.1039/c7ta08355f
Shahzad F, 2016, SCIENCE, V353, P1137, DOI 10.1126/science.aag2421
Shuck CE, 2019, ACS APPL NANO MATER, V2, P3368, DOI 10.1021/acsanm.9b00286
Shuvo SN, 2020, ACS SENSORS, V5, P2915, DOI 10.1021/acssensors.0c01287
Sinha A, 2018, TRAC-TREND ANAL CHEM, V105, P424, DOI 10.1016/j.trac.2018.05.021
Song XY, 2024, J ALLOY COMPD, V976, DOI 10.1016/j.jallcom.2023.173153
Sonker R. K., 2022, Smartnanostructurematerials and sensor technology
Sreedhar A, 2024, J MATER SCI TECHNOL, V203, P237, DOI 10.1016/j.jmst.2024.04.016
Sun Q, 2020, NANOSCALE, V12, P16987, DOI 10.1039/c9nr08350b
Sun SB, 2020, SENSOR ACTUAT B-CHEM, V304, DOI 10.1016/j.snb.2019.127274
Sun YQ, 2019, J MEMBRANE SCI, V591, DOI 10.1016/j.memsci.2019.117350
Sun Z, 2023, SENSOR ACTUAT B-CHEM, V381, DOI 10.1016/j.snb.2023.133355
Tang Q, 2012, J AM CHEM SOC, V134, P16909, DOI 10.1021/ja308463r
Thomas T, 2022, MICROPOR MESOPOR MAT, V336, DOI 10.1016/j.micromeso.2022.111872
Thomas T, 2021, CERAM INT, V47, P35384, DOI 10.1016/j.ceramint.2021.08.342
Tian X, 2022, J MATER CHEM A, V10, P5505, DOI 10.1039/d1ta10773a
Tong X, 2017, CERAM INT, V43, P14200, DOI 10.1016/j.ceramint.2017.07.165
VahidMohammadi A, 2017, ACS NANO, V11, P11135, DOI 10.1021/acsnano.7b05350
Wang BX, 2018, J ADV CERAM, V7, P237, DOI 10.1007/s40145-018-0275-3
Wang CX, 2010, SENSORS-BASEL, V10, P2088, DOI 10.3390/s100302088

Wang P, 2024, SENSOR ACTUAT B-CHEM, V398, DOI 10.1016/j.snb.2023.134710
Wang S, 2021, SENSOR ACTUAT B-CHEM, V327, DOI 10.1016/j.snb.2020.128923
Wang XY, 2023, SMALL METHODS, V7, DOI 10.1002/smtd.202201694
Wang XW, 2023, J MATER CHEM A, V11, P7690, DOI 10.1039/d2ta07917h
Wang XW, 2021, NANO ENERGY, V88, DOI 10.1016/j.nanoen.2021.106242
Wang YR, 2019, APPL SURF SCI, V492, P116, DOI 10.1016/j.apsusc.2019.06.212
Wang YX, 2022, ACS NANO, V16, P1734, DOI 10.1021/acsnano.1c09925
Wang YH, 2020, SENSOR ACTUAT B-CHEM, V323, DOI 10.1016/j.snb.2020.128695
Wei Y, 2021, ADV MATER, V33, DOI 10.1002/adma.202103148
Wu M, 2021, ACS APPL NANO MATER, V4, P6257, DOI 10.1021/acsanm.1c01059
Wu M, 2019, ACS SENSORS, V4, P2763, DOI 10.1021/acssensors.9b01308
Wu QJ, 2023, TALANTA, V253, DOI 10.1016/j.talanta.2022.124063
Wu T, 2022, CHEM MATER, V34, P4975, DOI 10.1021/acs.chemmater.2c00224
Wu XX, 2020, J MATER CHEM C, V8, P1788, DOI 10.1039/c9tc05575d
Wu ZG, 2021, ACS NANO, V15, P18880, DOI 10.1021/acsnano.1c08239
Xiao B, 2016, SENSOR ACTUAT B-CHEM, V235, P103, DOI 10.1016/j.snb.2016.05.062
Xie QQ, 2024, SENSOR ACTUAT B-CHEM, V405, DOI 10.1016/j.snb.2024.135338
Xu BZ, 2016, ADV MATER, V28, P3333, DOI 10.1002/adma.201504657
Xu QK, 2022, J HAZARD MATER, V424, DOI 10.1016/j.jhazmat.2021.127492
Xue Q, 2017, ADV MATER, V29, DOI 10.1002/adma.201604847
Yadav A, 2023, CERAM INT, V49, P7853, DOI 10.1016/j.ceramint.2022.10.284
Yang DX, 2019, PHYSICA E, V111, P84, DOI 10.1016/j.physe.2019.02.019
Yang L, 2021, ACS APPL MATER INTER, V13, P60531, DOI 10.1021/acsami.1c22001
Yang ZJ, 2019, ACS SENSORS, V4, P1261, DOI 10.1021/acssensors.9b00127
Yaqoob U, 2021, SENSORS-BASEL, V21, DOI 10.3390/s21082877
Yazdanparast S, 2020, ACS APPL MATER INTER, V12, P20129, DOI 10.1021/acsami.0c03181
Yorulmaz U, 2016, NANOTECHNOLOGY, V27, DOI 10.1088/0957-4484/27/33/335702
Yu XF, 2015, ACS APPL MATER INTER, V7, P13707, DOI 10.1021/acsami.5b03737
Yuan WJ, 2018, J MATER CHEM A, V6, P18116, DOI 10.1039/c8ta06928j
Yun H, 2022, ADV FUNCT MATER, V32, DOI 10.1002/adfm.202203296
Zhan XX, 2020, NANOSCALE HORIZ, V5, P235, DOI 10.1039/c9nh00571d
Zhang CFJ, 2017, CHEM MATER, V29, P4848, DOI 10.1021/acs.chemmater.7b00745
Zhang HF, 2022, RARE METALS, V41, P3976, DOI 10.1007/s12598-022-02087-x
Zhang H, 2011, J NANOSCI NANOTECHNO, V11, P5939, DOI 10.1166/jnn.2011.4408
Zhang HM, 2023, VACUUM, V218, DOI 10.1016/j.vacuum.2023.112640
Zhang J, 2017, PHYS CHEM CHEM PHYS, V19, P6313, DOI 10.1039/c6cp07799d
Zhang T, 2017, J ALLOY COMPD, V695, P818, DOI 10.1016/j.jallcom.2016.10.127
Zhang XF, 2023, SMALL STRUCT, V4, DOI 10.1002/sstr.202200309
Zhang YJ, 2019, APPL SURF SCI, V469, P770, DOI 10.1016/j.apsusc.2018.11.018
Zhang YJ, 2018, RSC ADV, V8, P19895, DOI 10.1039/c8ra03077d
Zhao HC, 2023, MATERIALS, V16, DOI 10.3390/ma16083249
Zhao LJ, 2019, INFOMAT, V1, P407, DOI 10.1002/inf2.12032
Zhao XF, 2020, ACS APPL NANO MATER, V3, P10578, DOI 10.1021/acsanm.0c02473
Zhao XF, 2019, MATTER-US, V1, P513, DOI 10.1016/j.matt.2019.05.020
Zhi H, 2021, ACS APPL MATER INTER, V13, P45987, DOI 10.1021/acsami.1c12991
Zhou Y, 2021, ACS APPL MATER INTER, V13, P56485, DOI 10.1021/acsami.1c17429
Zhou Y, 2020, ANAL CHEM, V92, P16033, DOI 10.1021/acs.analchem.0c03664
Zhu ZY, 2020, J HAZARD MATER, V399, DOI 10.1016/j.jhazmat.2020.123054

Cited Reference Count: 207

Abstract: Since 2011, MXenes, a family of two-dimensional transition metal carbonitrides, nitrides, and carbides, have been identified as promising candidates for gas-sensing applications due to their high surface area, tunable electronic properties, and excellent mechanical and chemical stability. Recent progress has focused on improving their sensing performance, selectivity, and response/recovery times. Our Review offers a thorough summary of the most recent progress in the use of MXene-based nanocomposites for smart gas sensors. The study explores the synthesis of pure MXenes from different MAX phases using selective etching and suitable etchants and delaminating agents. It also discusses the characteristics of MXenes and their applications. Further analysis looks at how the performance of gas sensors is impacted by various parameters including humidity, thickness, surface area, concentration, temperature, functional groups, and substrate. Moreover, this Review discusses the existing difficulties in the subject and suggests potential avenues for future research to tackle these hurdles. This work intends to provide guidance for the fabrication of next-generation smart gas sensors using MXene-based nanocomposites. It summarizes recent developments and potential techniques, with the goal of enabling their applications in environmental monitoring, industrial safety, and healthcare diagnostics.

Accession Number: WOS:001471707900001

Language: English

Document Type: Review; Early Access

Author Keywords: MXene; MAX Phase; Gas Sensor; Nanocomposite; Machine Learning; MXene Challenges

KeyWords Plus: TI3C2TX MXENE; ROOM-TEMPERATURE; ELECTRONIC-PROPERTIES; RECENT PROGRESS; ATOMIC DEFECTS; CARBIDE MXENE; MO2CTX MXENE; NH3 SENSOR; MAX PHASE; GRAPHENE

Addresses: [Rawat, Ankita; Rajput, Gaurav; Kulriya, P. K.] Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.
[Chourasia, Nitesh K.] Pandit Deendayal Energy Univ, Sch Energy Technol, Dept Phys, Gandhinagar 382426, Gujarat, India.

Corresponding Address: Kulriya, PK (corresponding author), Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.

E-mail Addresses: pkkulriya@mail.jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi; Pandit Deendayal Energy University

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Chourasia, Nitesh K.	GOH-0010-2022	
Kulriya, Pawan	AAC-6687-2021	
RAJPUT, GAURAV	AAW-4292-2021	

Publisher: AMER CHEMICAL SOC

Publisher Address: 1155 16TH ST, NW, WASHINGTON, DC 20036 USA

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Nanoscience & Nanotechnology; Materials Science, Multidisciplinary

Research Areas: Science & Technology - Other Topics; Materials Science

IDS Number: 1RE3E

eISSN: 2574-0970

29-char Source Abbrev.: ACS APPL NANO MATER

ISO Source Abbrev.: ACS Appl. Nano Mater.

Source Item Page Count: 49

Funding:

Funding Agency	Grant Number
Council of Scientific and Industrial Research, India	09/263(1233)/2020-EMR-I
CSIR-UGC NET	

Ankita Rawat is thankful to CSIR-UGC NET with File No. 09/263(1233)/2020-EMR-I for providing a Senior Research Fellowship (SRF).

Output Date: 2025-05-06

Record 16 of 33

Title: Intrusion detection in internet of things using differential privacy: A hybrid machine learning approach

Author(s): Manderna, A (Manderna, Ankit); Dohare, U (Dohare, Upasana); Kumar, S (Kumar, Sushil); Ram, B (Ram, Balak)

Source: AD HOC NETWORKS **Volume:** 174 **Article Number:** 103818 **DOI:** 10.1016/j.adhoc.2025.103818 **Early Access Date:** APR 2025 **Published Date:** 2025 JUL 1

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References:

Ahuja N, 2021, J NETW COMPUT APPL, V187, DOI 10.1016/j.jnca.2021.103108
Alzaqebah A, 2022, MATHEMATICS-BASEL, V10, DOI 10.3390/math10060999
Anwar SS, 2024, SECUR PRIVACY, V7, DOI 10.1002/spy2.445
Ashraf Syeda Nazia, 2023, IoT empowered smart cybersecurity framework for intrusion detection in internet of drones
Cao XY, 2021, IEEE T AUTOMAT CONTR, V66, P3718, DOI 10.1109/TAC.2020.3022856
Churcher A, 2021, SENSORS-BASEL, V21, DOI 10.3390/s21020446
Cui J, 2024, IEEE T MOBILE COMPUT, V23, P12195, DOI 10.1109/TMC.2024.3407709
Cvitic I, 2023, MOBILE NETW APPL, V28, P231, DOI 10.1007/s11036-021-01789-3
Das T, 2023, CONSUM COMM NETWORK, DOI 10.1109/CCNC51644.2023.10059640
de Oliveira JA, 2023, COMPUT NETW, V236, DOI 10.1016/j.comnet.2023.110010
Friha O, 2023, COMPUT SECUR, V127, DOI 10.1016/j.cose.2023.103097
Gaurav A, 2022, TECHNOL FORECAST SOC, V177, DOI 10.1016/j.techfore.2022.121554
Ge MM, 2021, COMPUT NETW, V186, DOI 10.1016/j.comnet.2020.107784
Huang J, 2024, SENSORS-BASEL, V24, DOI 10.3390/s24124002
Ihekoronye Vivian Ukamaka, 2022, MILCOM 2022 - 2022 IEEE Military Communications Conference (MILCOM), P336, DOI 10.1109/MILCOM55135.2022.10017532
Jiang H, 2020, IEEE ACCESS, V8, P58392, DOI 10.1109/ACCESS.2020.2982418
Kashyap PK, 2021, IEEE SENS J, V21, P17479, DOI 10.1109/JSEN.2021.3069266
Khan AA, 2021, COMPUT NETW, V196, DOI 10.1016/j.comnet.2021.108217
Khater BS, 2021, ELECTRONICS-SWITZ, V10, DOI 10.3390/electronics10141633
Khater BS, 2019, APPL SCI-BASEL, V9, DOI 10.3390/app9010178
Li JL, 2022, J SUPERCOMPUT, V78, P13122, DOI 10.1007/s11227-022-04390-x
Li XK, 2020, COMPUT SECUR, V95, DOI 10.1016/j.cose.2020.101851
Misbahuddin M, 2021, J KING SAUD UNIV-COM, V33, P436, DOI 10.1016/j.jksuci.2019.02.003
Moizuddin M, 2022, KNOWL-BASED SYST, V238, DOI 10.1016/j.knosys.2021.107894
Nagaraju R., 2022, Measurement: Sensors, V24, P100

Nasir MU, 2022, SENSORS-BASEL, V22, DOI 10.3390/s22186755
Negandhi Prashil, 2019, Emerging Research in Computing, Information, Communication and Applications. ERCICA 2018. Advances in Intelligent Systems and Computing (AISC 906), P519, DOI 10.1007/978-981-13-6001-5_43
Osamor F, 2022, INT J ADV COMPUT SC, V13, P975
Paricherla M, 2022, SECUR COMMUN NETW, V2022, DOI 10.1155/2022/4477507
Polat H, 2020, SUSTAINABILITY-BASEL, V12, DOI 10.3390/su12031035
Rawat Romil, 2022, Lessons from COVID-19, P405
Sajid M, 2024, J CLOUD COMPUT-ADV S, V13, DOI 10.1186/s13677-024-00685-x
Samy A, 2020, IEEE ACCESS, V8, P74571, DOI 10.1109/ACCESS.2020.2988854
Shang FH, 2021, IEEE T INF FOREN SEC, V16, P4733, DOI 10.1109/TIFS.2021.3113768
Singh R, 2023, FRONT BIG DATA, V6, DOI 10.3389/fdata.2023.1081466
Ullah Muhammad Ubaid, 2022, Int. J. Comput. Innov. Sci., V1, P21
Valentini EP, 2023, IEEE ACCESS, V11, P68113, DOI 10.1109/ACCESS.2023.3292055
Zhou ZL, 2024, NEURAL COMPUT APPL, V36, P1, DOI 10.1007/s00521-021-06389-6

Cited Reference Count: 38

Abstract: With the rising integration of the Internet of Things (IoT) into our daily lives, ensuring the security and privacy of these interconnected systems has become paramount. Traditional cybersecurity approaches often fall short in addressing the dual challenges of protecting IoT systems from intrusions while preserving user privacy, particularly given the complexity of IoT data and increased concerns about data privacy. Therefore, a Machine Learning (ML) based model is implemented in the proposed system to accurately classify intrusions, tailored for IoT security. In this context, this paper proposes a hybrid machine learning model: Average Orthogonal Probabilistic Random Forest-Extreme Gradient Boosting (AOPRF-XGBoost) to classify the presence and absence of intrusions in the datasets while considering different data privacy budgets. The AOPRF-XGBoost model makes use of a proposed enhanced version of Random Forest: Average Orthogonal Probabilistic Random Forest and Extreme Gradient Boosting models. A key aspect of this work is the incorporation of differential privacy mechanisms to safeguard sensitive data during model training. Differential Privacy Datasets are created by adding Gaussian noise to the existing datasets: AFDA-IDS and UNR-IDD for the AOPRF-XGBoost model, ensuring privacy protection. The experimental results of the AOPRF-XGBoost model show that the model's accuracy improves by 3% and 1% in AFDA-IDS dataset and UNR-IDD dataset respectively, over state-of-the-art existing machine learning models, achieving a balance between Security and Privacy.

Accession Number: WOS:001462452000001

Language: English

Document Type: Article

Author Keywords: Machine learning; Intrusion detection; Differential privacy; Network security; Random forest

KeyWords Plus: ADMM

Addresses: [Manderna, Ankit; Kumar, Sushil; Ram, Balak] Jawaharlal Nehru Univ, Sch Comp & Syst Sci, New Delhi, India.
[Dohare, Upasana] GL Bajaj Inst Technol & Management, Dept Master Comp Applicat, Greater Noida, India.
[Manderna, Ankit] Natl Inst Elect & Informat Technol, Aurangabad, Maharashtra, India.

Corresponding Address: Dohare, U (corresponding author), GL Bajaj Inst Technol & Management, Dept Master Comp Applicat, Greater Noida, India.

E-mail Addresses: ankit.m@nielit.gov.in; upasana.dohare@glbitm.ac.in; skdohare@jnu.ac.in; balak51_scs@jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi; National Institute of Electronics & Information Technology (NIELIT)

Publisher: ELSEVIER

Publisher Address: RADARWEG 29, 1043 NX AMSTERDAM, NETHERLANDS

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Computer Science, Information Systems; Telecommunications

Research Areas: Computer Science; Telecommunications

IDS Number: 1DN3K

ISSN: 1570-8705

eISSN: 1570-8713

29-char Source Abbrev.: AD HOC NETW

ISO Source Abbrev.: Ad Hoc Netw.

Source Item Page Count: 16

Output Date: 2025-05-06

Record 17 of 33

Title: Harnessing the power of iridium AIEgens for NAD(P)H detection in aqueous medium and living cells

Author(s): Gupta, A (Gupta, Ajay); Gautam, A (Gautam, Aryan); Patra, S (Patra, Smaranika); Kunwar, A (Kunwar, Amit); Sasmal, PK (Sasmal, Pijus K.)

Source: CHEMICAL COMMUNICATIONS **DOI:** 10.1039/d5cc01124h **Early Access Date:** APR 2025 **Published Date:** 2025 APR 22

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Alberghina L, 2014, CELL DEATH DIS, V5, DOI 10.1038/cddis.2014.513
Blacker TS, 2016, FREE RADICAL BIO MED, V100, P53, DOI 10.1016/j.freeradbiomed.2016.08.010
Chavda V, 2023, ANTIOXIDANTS-BASEL, V12, DOI 10.3390/antiox12040895
Eto K, 1999, SCIENCE, V283, P981, DOI 10.1126/science.283.5404.981
Feng GX, 2018, ACCOUNTS CHEM RES, V51, P1404, DOI 10.1021/acs.accounts.8b00060
Fomin MA, 2016, ACS SENSORS, V1, P702, DOI 10.1021/acssensors.5b00315
Gupta A, 2023, J MED CHEM, V66, P8687, DOI 10.1021/acs.jmedchem.3c00336
Gupta A, 2023, DALTON T, V52, P1188, DOI 10.1039/d2dt03554e
Gupta A, 2020, ACS APPL MATER INTER, V12, P35967, DOI 10.1021/acsami.0c11161
Ito H, 2015, CHEM COMMUN, V51, P8319, DOI 10.1039/c5cc01613d
Jian XX, 2024, CHEM COMMUN, V60, P8484, DOI 10.1039/d4cc02901a
Jiang L, 2020, DYES PIGMENTS, V183, DOI 10.1016/j.dyepig.2020.108740
Joo JH, 2020, SENSOR ACTUAT B-CHEM, V320, DOI 10.1016/j.snb.2020.128360
Ju HQ, 2020, SIGNAL TRANSDUCT TAR, V5, DOI 10.1038/s41392-020-00326-0
Kang MM, 2020, AGGREGATE, V1, P80, DOI 10.1002/agt2.7
Lee LCC, 2024, CHEM REV, V124, P8825, DOI 10.1021/acs.chemrev.3c00629
Lee MH, 2015, CHEM SOC REV, V44, P4185, DOI 10.1039/c4cs00280f
Ma MW, 2017, MOL NEURODEGENER, V12, DOI 10.1186/s13024-017-0150-7
Noguchi T, 2013, MACROMOL RAPID COMM, V34, P779, DOI 10.1002/marc.201300015
Podder A, 2020, ANAL CHEM, V92, P12356, DOI 10.1021/acs.analchem.0c02049
Podder A, 2019, CHEM COMMUN, V55, P537, DOI 10.1039/c8cc08991d

Prasad P, 2021, CHEM COMMUN, V57, P174, DOI 10.1039/d0cc06037b
Qiu KQ, 2019, COORDIN CHEM REV, V378, P66, DOI 10.1016/j.ccr.2017.10.022
Shamjith S, 2022, BIOSENS BIOELECTRON, V204, DOI 10.1016/j.bios.2022.114087
Sun PJ, 2021, SPECTROCHIM ACTA A, V245, DOI 10.1016/j.saa.2020.118919
Sun YX, 2024, CHEM COMMUN, V60, P5932, DOI 10.1039/d4cc01378f
Wang L, 2016, J AM CHEM SOC, V138, P10394, DOI 10.1021/jacs.6b05810
Xiao HB, 2021, COORDIN CHEM REV, V427, DOI 10.1016/j.ccr.2020.213582
Ying WH, 2008, ANTIOXID REDOX SIGN, V10, P179, DOI 10.1089/ars.2007.1672
Zhao YH, 2019, ANAL CHEM, V91, P1368, DOI 10.1021/acs.analchem.8b03563

Cited Reference Count: 30

Abstract: A rationally designed luminescent probe based on cyclometalated iridium(iii) AIEgens was developed for the rapid, sensitive, and specific detection of NAD(P)H in aqueous media. This probe was successfully utilized for bioimaging of NADH within the mitochondria of living cancer cells, highlighting its potential as a valuable tool for investigating NADH-associated cellular processes.

Accession Number: WOS:001471874400001

PubMed ID: 40261153

Language: English

Document Type: Article; Early Access

Addresses: [Gupta, Ajay; Gautam, Aryan; Patra, Smaranika; Sasmal, Pijus K.] Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.
[Kunwar, Amit] Bhabha Atom Res Ctr, Radiat & Photochem Div, Mumbai 400085, Maharashtra, India.
[Kunwar, Amit] Homi Bhabha Natl Inst, Mumbai 400094, Maharashtra, India.

Corresponding Address: Sasmal, PK (corresponding author), Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.
Kunwar, A (corresponding author), Bhabha Atom Res Ctr, Radiat & Photochem Div, Mumbai 400085, Maharashtra, India.
Kunwar, A (corresponding author), Homi Bhabha Natl Inst, Mumbai 400094, Maharashtra, India.

E-mail Addresses: kamit@barc.gov.in; pijus@jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi; Bhabha Atomic Research Center (BARC); Homi Bhabha National Institute

Publisher: ROYAL SOC CHEMISTRY

Publisher Address: THOMAS GRAHAM HOUSE, SCIENCE PARK, MILTON RD, CAMBRIDGE CB4 0WF, CAMBS, ENGLAND

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Chemistry, Multidisciplinary

Research Areas: Chemistry

IDS Number: 1RK6Z

ISSN: 1359-7345

eISSN: 1364-548X

29-char Source Abbrev.: CHEM COMMUN

ISO Source Abbrev.: Chem. Commun.

Source Item Page Count: 4

Funding:

Funding Agency	Grant Number
BRNS, the Government of India	58/14/15/2023-BRNS/12127

This work was supported by a research grant from BRNS (58/14/15/2023-BRNS/12127), the Government of India. We thank AIRF, JNU, for providing the instrumentation facilities. We gratefully acknowledge Prof. P. Mukhopadhyay, SPS, JNU, for his valuable input in the design and interpretation of the DFT calculations. We also thank D. Chauhan, SPS, JNU, for conducting the cytotoxicity evaluation of the probe.

Output Date: 2025-05-06

Record 18 of 33

Title: Communities of practice as 'brave spaces': perspectives from women teachers in India

Author(s): Tran, TNT (Tran, Thanh Nguyen Thao); Clarke, M (Clarke, Marie); Raftery, D (Raftery, Deirdre); Ferris, R (Ferris, Ruth); Regan, E (Regan, Ellen); Nowlan-Roebuck, C (Nowlan-Roebuck, Catherine); Kitanova, M (Kitanova, Magdelina); Atwal, J (Atwal, Jyoti)

Source: TEACHERS AND TEACHING **DOI:** 10.1080/13540602.2025.2490839 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 19

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Aharonian N, 2021, PROF DEV EDUC, V47, P763, DOI 10.1080/19415257.2019.1667413
Arao B., 2013, ART EFFECTIVE FACILI, P135, DOI DOI 10.4324/9781003447580-11
Borko H., 2004, EDUC RESEARCHER, V33, P3, DOI [https://doi.org/10.3102/0013189X033008003, DOI 10.3102/0013189X033008003]
Brazill S, 2022, INT J MULTICULT EDUC, V24, P114
Brody D, 2011, TEACH TEACH EDUC, V27, P1223
Clarke M, 2023, TEACH DEV, V27, P415, DOI 10.1080/13664530.2023.2219645
Cook-Sather A., 2016, Teaching and Learning Together in Higher Education, V1, P1
Darling-Hammond L., 2017, Effective teacher professional development
Ferris R, 2022, ASIA PAC J EDUC, V42, P34, DOI 10.1080/02188791.2022.2031871
Graham L. P., 2021, University of Miami Law Review, V76, P84
Hertz B, 2022, EUR J EDUC, V57, P142, DOI 10.1111/ejed.12486
James M, 2009, TEACH TEACH EDUC, V25, P973, DOI 10.1016/j.tate.2009.02.023
Lave J., 2001, SITUATED LEARNING LE, DOI [10.1017/CBO9780511815355, DOI 10.1017/CBO9780511815355]
Leask M., 2001, Issues in teaching using ICT, P223, DOI [10.4324/9780203185117-16, DOI 10.4324/9780203185117-16]
Lieberman A, 2010, J TEACH EDUC, V61, P77, DOI 10.1177/0022487109347319
MARUYAMA M, 1974, HUM ORGAN, V33, P318, DOI 10.17730/humo.33.3.7q605k8175412018
McConnell TJ, 2013, J SCI EDUC TECHNOL, V22, P267, DOI 10.1007/s10956-012-9391-y
Ministry of Human Resource Development, 2020, National policy on education, department of education
Mukherjee K, 2024, ELT J, DOI 10.1093/elt/ccae062
Mukhopadhyay L., 2023, Language and Language Teaching, V12/2, P167
Mythili N., 2019, Contemporary Education Dialogue, V16, P54, DOI [https://doi.org/10.1177/0973184918804396, DOI 10.1177/0973184918804396]
National Council for Teacher Education, 2023, NPST guiding document
Palfrey J, 2017, SAFE SPACES, BRAVE SPACES: DIVERSITY AND FREE EXPRESSION IN EDUCATION, P1
Purkayastha B, 2003, GENDER SOC, V17, P503, DOI 10.1177/0891243203253793

Raftery D, 2023, PAEDAGOG HIST, V59, P1216, DOI 10.1080/00309230.2021.2004175
Ramachandran V., 2017, Getting the Right Teachers into the Right Schools: Managing Indias Teacher Workforce
Samuel R., 2024, Low-income women teacher values and agency in India: Implications for reflective practice
Simon JD, 2022, J SOC WORK EDUC, V58, P34, DOI 10.1080/10437797.2021.1883492
Stacki S., 2002, Women Teachers Empowered in India: Teacher Training through a Gender Lens
UNESCO, 2013, Women and the teaching profession: Exploring the feminisation debate
UNESCO, 2021, No teacher, No class: State of the education report for India, 2021 , summary
Verduzco-Baker L, 2018, SOCIOL RACE ETHNIC, V4, P585, DOI 10.1177/2332649218763696
Wenger E., 1998, Communities of practice: Learning, meaning, and identity, DOI [10.1017/CBO9780511803932, 10.1017/cbo9780511803932]
Wenger-Trayner E., 2020, Learning to Make a Difference: Value Creation in Social Learning Spaces, DOI DOI 10.1017/9781108677431
Wenger-Trayner E, 2015, LEARNING IN LANDSCAPES OF PRACTICE: BOUNDARIES, IDENTITY, AND KNOWLEDGEABILITY IN PRACTICE-BASED LEARNING, P13
Zikhali J, 2016, EDUC MANAG ADM LEAD, V44, P347, DOI 10.1177/1741143214558572
Zuban N., 2019, Papers on Postsecondary Learning and Teaching, V3, P103, DOI [10.55016/ojs /pplt.v3Y2019.53078, DOI 10.55016/OJS/PPLT.V3Y2019.53078]

Cited Reference Count: 37

Abstract: This small-scale qualitative study explores the establishment and operation of communities of practice (CoPs) by six women teachers in schools in the areas of New Delhi, Chennai and Jehlum in India. The findings emerge from a larger research project on the professional development needs of women teachers in schools in India. Using the framework of 'brave spaces' the article examines the development of CoPs for the purpose of professional development. In this study of schools in the Global South, this type of approach is new, is demanding in cultural terms and will take time to become embedded in school cultures. The brave spaces framework revealed some of the tensions that can exist within CoPs, and which need to be worked through to effect meaningful practice. Through semi-structured interviews, an exploration of the social learning experiences of these women teachers was conducted revealing the interplay of power, authority, conflict and teacher identity. The findings highlight some of the challenges that these women teachers faced in establishing and conducting CoPs, their vulnerabilities leading these CoPs, and their critical reflections and the nature of the complex challenges that they faced in their own professional development and learning.

Accession Number: WOS:001469021700001

Language: English

Document Type: Article; Early Access

Author Keywords: Communities of practice; brave spaces; professional development; women teachers; India

KeyWords Plus: LEADERSHIP

Addresses: [Tran, Thanh Nguyen Thao; Clarke, Marie; Raftery, Deirdre; Ferris, Ruth; Regan, Ellen; Nowlan-Roebuck, Catherine; Kitanova, Magdelina] Univ Coll Dublin, Sch Educ, Dublin, Ireland. [Atwal, Jyoti] Jawaharlal Nehru Univ, Ctr Hist Studies, Sch Social Sci, New Delhi, India.

Corresponding Address: Clarke, M (corresponding author), Univ Coll Dublin, Sch Educ, Dublin, Ireland.

E-mail Addresses: marie.clarke@ucd.ie

Affiliations: University College Dublin; Jawaharlal Nehru University, New Delhi

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Tran, Thanh-Nhan	AAQ-3228-2020	
Ferris, Ruth	GXV-2150-2022	

Publisher: ROUTLEDGE JOURNALS, TAYLOR & FRANCIS LTD
Publisher Address: 2-4 PARK SQUARE, MILTON PARK, ABINGDON OX14 4RN, OXON, ENGLAND
Web of Science Index: Social Science Citation Index (SSCI)
Web of Science Categories: Education & Educational Research
Research Areas: Education & Educational Research
IDS Number: 1NF1P
ISSN: 1354-0602
eISSN: 1470-1278
29-char Source Abbrev.: TEACH TEACH
ISO Source Abbrev.: Teach. Teach.
Source Item Page Count: 19
Funding:

Funding Agency	Grant Number
UCD Foundation	R18960

The work was supported by the UCD Foundation [Grant Number R18960].

Open Access: hybrid
Output Date: 2025-05-06

Record 19 of 33

Title: Respiratory sound classification utilizing human auditory-based feature extraction

Author(s): Rishabh (Rishabh, Dhirendra); Kumar, D (Kumar, Dhirendra); Meena, Y (Meena, Yogendra); Singh, K (Singh, Kuldeep)

Source: PHYSICA SCRIPTA **Volume:** 100 **Issue:** 4 **Article Number:** 046003 **DOI:** 10.1088/1402-4896/adb80f **Published Date:** 2025 APR 1

Times Cited in Web of Science Core Collection: 0
Total Times Cited: 0
Usage Count (Last 180 days): 2
Usage Count (Since 2013): 2

Cited References: [Anonymous], CHRONIC OBSTRUCTIVE
Basu V, 2020, INT CONF COMPUT INT, DOI 10.1109/CINE48825.2020.234388
Choi Y, 2023, BIOMED SIGNAL PROCES, V84, DOI 10.1016/j.bspc.2023.104695
Ferreira-Paiva L., 2022, Congresso Brasileiro de Automtica-CBA, V3, P1, DOI [10.20906/CBA2022/3469, DOI 10.20906/CBA2022/3469]
Fraiwan M, 2021, DATA BRIEF, V35, DOI 10.1016/j.dib.2021.106913
Gallardo-Antolín A, 2021, SYMMETRY-BASEL, V13, DOI 10.3390/sym13091728
GBD DALYs and HALE Collaborators, 2015, Lancet, V388, P1603, DOI 10.1016/S0140-6736(16)31460-X
Ma K, 2019, IEEE IJCNN
Mang LD, 2023, BIOMED SIGNAL PROCES, V82, DOI 10.1016/j.bspc.2022.104555
MANN HB, 1947, ANN MATH STAT, V18, P50, DOI 10.1214/aoms/1177730491

Nair AP, 2016, 2016 CONFERENCE ON ADVANCES IN SIGNAL PROCESSING (CASP), P474
Rocha B. M., 2017, PRECISION MED POWERE, P33, DOI [10.1007/978-981-10-7419-6 6, DOI 10.1007/978-981-10-7419-66]
Salamon J, 2017, IEEE SIGNAL PROC LET, V24, P279, DOI 10.1109/LSP.2017.2657381
Shengyun Wei, 2020, Journal of Physics: Conference Series, V1453, DOI 10.1088/1742-6596/1453/1 /012085
Shuvo SB, 2021, IEEE J BIOMED HEALTH, V25, P2595, DOI 10.1109/JBHI.2020.3048006
Stevens SS, 1937, J ACOUST SOC AM, V8, P185, DOI 10.1121/1.1915893
Tasar B, 2022, APPL ACOUST, V188, DOI 10.1016/j.apacoust.2021.108589
García-Ordás MT, 2020, SENSORS-BASEL, V20, DOI 10.3390/s20041214
Tiwari U, 2020, INT CONF ACOUST SPEE, P7194, DOI [10.1109/icassp40776.2020.9053581, 10.1109/ICASSP40776.2020.9053581]
Wall C, 2022, SENSORS-BASEL, V22, DOI 10.3390/s22155566
Wanasinghe Thinira, 2024, 2024 International Research Conference on Smart Computing and Systems Engineering (SCSE), P1, DOI 10.1109/SCSE61872.2024.10550572
Wanasinghe T, 2024, IEEE ACCESS, V12, P21262, DOI 10.1109/ACCESS.2024.3361943
World Health Organization, 2024, World Health Organization: chronic respiratory diseases
Wu Chenwen, 2023, 2023 4th International Conference on Intelligent Computing and Human-Computer Interaction (ICHCI), P148, DOI 10.1109/ICHCI58871.2023.10277774
Zhu Yuming, 2021, 2021 11th International Conference on Information Technology in Medicine and Education (ITME), P298, DOI 10.1109/ITME53901.2021.00068

Cited Reference Count: 25

Abstract: A major worldwide health concern is chronic respiratory diseases (CRDs), which include disorders including asthma, pulmonary hypertension, occupational lung diseases, and chronic obstructive pulmonary disease (COPD). Improving clinical results and treatment efficacy requires an early and precise diagnosis. In order to classify respiratory sounds, this study presents a novel framework that incorporates auditory-inspired characteristics, such as Mel-Frequency Cepstral Coefficients (MFCCs), Mel Spectrograms, and Cochleograms, into a CNN-LSTM architecture. The framework uses sophisticated feature extraction techniques in conjunction with strong data augmentation approaches to address the issue of class imbalance and guarantee a thorough representation of a variety of respiratory sound patterns. Using the Respiratory Sound Database, the suggested model was assessed and showed remarkable performance, obtaining an F1 score of 98.94%, accuracy of 98.90%, specificity of 99.80%, sensitivity of 98.90%, and an ICBHI score of 99.40%. These findings demonstrate the model's potential as a reliable and efficient tool for the early identification and evaluation of CRDs, which would significantly improve patient care and the management of respiratory illnesses. The outstanding performance further emphasizes the importance in clinical settings, enabling improved management and early identification of chronic respiratory conditions.

Accession Number: WOS:001437756900001

Language: English

Document Type: Article

Author Keywords: respiratory sound classification; biomedical signal processing; lung sound analysis; deep learning in audio signal; audio signal processing

KeyWords Plus: DATA AUGMENTATION; MODEL

Addresses: [Singh, Kuldeep] Univ Delhi, Dept Comp Sci, Delhi 110007, India.
[Kumar, Dhirendra] Delhi Technol Univ, Dept Appl Math, Delhi 110042, India.
[Meena, Yogendra] Jawaharlal Nehru Univ, Sch Comp & Syst Sci, Delhi 110067, India.

Corresponding Address: Kumar, D (corresponding author), Delhi Technol Univ, Dept Appl Math, Delhi 110042, India.

E-mail Addresses: scholarrishabhpal@gmail.com; dhirendrakumar@dtu.ac.in; yogendra@mail.jnu.ac.in; ksingh@cs.du.ac.in

Affiliations: University of Delhi; Delhi Technological University; Jawaharlal Nehru University, New Delhi

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Singh, Kuldeep	V-8371-2018	
Kumar, Dhirendra	AAE-8371-2021	
Kumar, Dhirendra		0000-0002-8902-5022

Publisher: IOP Publishing Ltd

Publisher Address: TEMPLE CIRCUS, TEMPLE WAY, BRISTOL BS1 6BE, ENGLAND

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Physics, Multidisciplinary

Research Areas: Physics

IDS Number: Z3D5B

ISSN: 0031-8949

eISSN: 1402-4896

29-char Source Abbrev.: PHYS SCRIPTA

ISO Source Abbrev.: Phys. Scr.

Source Item Page Count: 13

Funding:

Funding Agency	Grant Number
UGC Non-NET fellowship	

The first author received UGC Non-NET fellowship for conducting research work.

Output Date: 2025-05-06

Record 20 of 33

Title: Aurora Kinase A and B inhibition abrogates 'Neosis', a non-mitotic cell division of GBM residual cells and prevents GBM recurrence

Author(s): Mahaddalkar, T (Mahaddalkar, Tejashree); Banerjee, A (Banerjee, Archisman); Ketkar, M (Ketkar, Madhura); Thorat, R (Thorat, Rahul); Gardi, N (Gardi, Nilesh); Dutt, S (Dutt, Shilpee)

Source: ONCOGENE **DOI:** 10.1038/s41388-025-03372-6 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 7

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Adibi R, 2023, SCI REP-UK, V13, DOI 10.1038/s41598-022-27090-1
Alafate W, 2019, PATHOL RES PRACT, V215, DOI 10.1016/j.prp.2019.152617
Alhaddad L, 2023, INT J MOL SCI, V24, DOI 10.3390/ijms24021228
Berul CI, 1996, CIRCULATION, V94, P2641, DOI 10.1161/01.CIR.94.10.2641
Borges KS, 2012, J CANCER RES CLIN, V138, P405, DOI 10.1007/s00432-011-1111-0
Briassouli P, 2007, CANCER RES, V67, P1689, DOI 10.1158/0008-5472.CAN-06-2272
Charan J, 2013, J PHARMACOL PHARMACO, V4, P303, DOI 10.4103/0976-500X.119726
Diaz RJ, 2015, ONCOTARGET, V6, P3359

DOXSEY SJ, 1994, CELL, V76, P639, DOI 10.1016/0092-8674(94)90504-5
Eom YW, 2005, ONCOGENE, V24, P4765, DOI 10.1038/sj.onc.1208627
Fei F, 2015, J EXP CLIN CANC RES, V34, DOI 10.1186/s13046-015-0277-8
Festing MFW, 2006, ILAR J, V47, P5, DOI 10.1093/ilar.47.1.5
Festing Michael F W, 2002, ILAR J, V43, P244
Frangini A, 2013, MOL CELL, V51, P647, DOI 10.1016/j.molcel.2013.08.022
Ghorai A, 2020, CANCER LETT, V490, P44, DOI 10.1016/j.canlet.2020.06.023
Gully CP, 2010, MOL CANCER, V9, DOI 10.1186/1476-4598-9-42
Gupta A, 2014, RADIAT RES, V181, P1, DOI 10.1667/RR13572.1
Heald R, 1996, NATURE, V382, P420, DOI 10.1038/382420a0
Hsu YC, 2016, EXP CELL RES, V344, P153, DOI 10.1016/j.yexcr.2016.04.012
Kanada M, 2005, MOL BIOL CELL, V16, P3865, DOI 10.1091/mbc.E05-03-0233
Kaur E, 2020, NEURO-ONCOLOGY, V22, P1785, DOI 10.1093/neuonc/noaa128
Kaur E, 2019, CELL ONCOL, V42, P107, DOI 10.1007/s13402-018-0411-7
Kaur E, 2016, SCI REP-UK, V6, DOI 10.1038/srep26538
Kaur E, 2015, CARCINOGENESIS, V36, P685, DOI 10.1093/carcin/bgv050
Langfelder P, 2008, BMC BIOINFORMATICS, V9, DOI 10.1186/1471-2105-9-559
Liu YY, 2022, CNS NEUROSCI THER, V28, P1326, DOI 10.1111/cns.13892
Liu Z, 2017, AM J TRANSL RES, V9, P845
Löwenberg B, 2011, BLOOD, V118, P6030, DOI 10.1182/blood-2011-07-366930
Lv HC, 2014, BMC CANCER, V14, DOI 10.1186/1471-2407-14-576
Mansilla S, 2006, CELL CYCLE, V5, P53, DOI 10.4161/cc.5.1.2267
Mansilla S, 2009, BIOCHEM PHARMACOL, V78, P123, DOI 10.1016/j.bcp.2009.03.027
Mittal K, 2017, BRIT J CANCER, V116, P1186, DOI 10.1038/bjc.2017.78
Nair J, 2021, J CELL SCI, V134, DOI 10.1242/jcs.259520
Nunes V, 2020, MOL BIOL CELL, V31, P1675, DOI 10.1091/mbc.E20-01-0047
Osuka S, 2017, J CLIN INVEST, V127, P415, DOI 10.1172/JCI89587
Puig PE, 2008, CELL BIOL INT, V32, P1031, DOI 10.1016/j.cellbi.2008.04.021
Rajaraman R, 2005, CELL BIOL INT, V29, P1084, DOI 10.1016/j.cellbi.2005.10.003
Rajaraman R, 2006, CANCER CELL INT, V6, DOI 10.1186/1475-2867-6-25
Rajendra Jacinth, 2018, Oncotarget, V9, P27667, DOI 10.18632/oncotarget.25351
Rakhmilevich AL, 2017, J IMMUNOL, V198, P1575, DOI 10.4049/jimmunol.1601255
Schwartz GK, 2013, INVEST NEW DRUG, V31, P370, DOI 10.1007/s10637-012-9825-7
Stupp R, 2005, NEW ENGL J MED, V352, P987, DOI 10.1056/NEJMoa043330
Sundaram M, 2004, CANCER BIOL THER, V3, P207, DOI 10.4161/cbt.3.2.663
Tsuboi K, 2011, LEUKEMIA RES, V35, P1384, DOI 10.1016/j.leukres.2011.04.008
Vakifahmetoglu H, 2008, CELL DEATH DIFFER, V15, P1153, DOI 10.1038/cdd.2008.47
White-Gilbertson S, 2019, J LIPID RES, V60, P1225, DOI 10.1194/jlr.M092247
Willems E, 2018, CELL DIV, V13, DOI 10.1186/s13008-018-0040-6
Zhang S, 2014, ONCOGENE, V33, P116, DOI 10.1038/onc.2013.96
Zhang SW, 2016, STEM CELLS INT, V2016, DOI 10.1155/2016/4810734
Zhang WH, 2011, CANCER-AM CANCER SOC, V117, P4092, DOI 10.1002/cncr.26021
Zhang ZX, 2021, MOL ONCOL, V15, P2219, DOI 10.1002/1878-0261.12913
Zheng CX, 2023, NAT CANCER, V4, P1437, DOI 10.1038/s43018-023-00624-w

Cited Reference Count: 52

Abstract: Glioblastoma (GBM) has a dismal median survival of 15 months owing to therapy resistance and inevitable recurrence. Using our cellular models of GBM radiation resistance, we had shown that GBM recurrence is due to survival and proliferation of residual disease cells enriched in multinucleated giant cells (MNGCs). However, MNGC division mechanism remained elusive. Here, using live-cell imaging we found daughter cells emerge from MNGCs by cytoplasmic pinching. Lack of DNA condensation, absence of

spindle poles and acto-myosin contractile ring in dividing-MNGCs confirmed non-mitotic division of MNGCs. Furthermore, MNGCs harboured DNA damage, senescence phenotype, repeated atypical division after radiation exposure, characteristics of unconventional division called 'Neosis'. Molecularly, WGCNA co-expression network analysis of RNA-Sequencing from parent, non-dividing MNGCs and dividing-MNGCs identified significantly high expression of aurora kinases (AurA and AurB) specifically in dividing-MNGCs. Pharmacological and genetic inhibition of aurora kinases abrogated MNGC neosis, preventing GBM recurrence in vitro and in vivo in an orthotopic GBM mouse model. Together, this study demonstrates that MNGCs divide by neosis, an atypical division mediated by AurA and AurB and identify aurora kinases as a potential molecular target to inhibit neosis and prevent GBM recurrence.

Accession Number: WOS:001461176400001

PubMed ID: 40195468

Language: English

Document Type: Article; Early Access

KeyWords Plus: BARASERTIB AZD1152; PHASE-I; GLIOBLASTOMA; EFFICACY; DEATH; PHARMACOKINETICS; TEMOZOLOMIDE; RESISTANCE; MECHANISM; APOPTOSIS

Addresses: [Mahaddalkar, Tejashree; Banerjee, Archisman; Ketkar, Madhura; Dutt, Shilpee] Tata Mem Hosp, Adv Ctr Treatment Res & Educ Canc, Shilpee Dutt Lab, Navi Mumbai, India.
[Mahaddalkar, Tejashree; Banerjee, Archisman; Ketkar, Madhura; Dutt, Shilpee] Homi Bhabha Natl Inst, Training Sch Complex, Anushakti Nagar, Mumbai, India.
[Thorat, Rahul] Tata Mem Hosp, Adv Ctr Treatment Res & Educ Canc, Lab Anim Facil, Navi Mumbai, India.
[Gardi, Nilesh] Tata Mem Hosp, Dept Med Oncol, Navi Mumbai, India.
[Dutt, Shilpee] Jawaharlal Nehru Univ, Sch Life Sci, Shilpee Dutt Lab, New Mehrauli Rd, New Delhi, India.

Corresponding Address: Dutt, S (corresponding author), Tata Mem Hosp, Adv Ctr Treatment Res & Educ Canc, Shilpee Dutt Lab, Navi Mumbai, India.
Dutt, S (corresponding author), Homi Bhabha Natl Inst, Training Sch Complex, Anushakti Nagar, Mumbai, India.
Dutt, S (corresponding author), Jawaharlal Nehru Univ, Sch Life Sci, Shilpee Dutt Lab, New Mehrauli Rd, New Delhi, India.

E-mail Addresses: shilpeedutt@jnu.ac.in

Affiliations: Tata Memorial Centre (TMC); Tata Memorial Hospital; Advance Centre for Treatment, Research & Education in Cancer (ACTREC); Homi Bhabha National Institute; Tata Memorial Centre (TMC); Advance Centre for Treatment, Research & Education in Cancer (ACTREC); Tata Memorial Hospital; Tata Memorial Centre (TMC); Tata Memorial Hospital; Jawaharlal Nehru University, New Delhi

Publisher: SPRINGERNATURE

Publisher Address: CAMPUS, 4 CRINAN ST, LONDON, N1 9XW, ENGLAND

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Biochemistry & Molecular Biology; Oncology; Cell Biology; Genetics & Heredity

Research Areas: Biochemistry & Molecular Biology; Oncology; Cell Biology; Genetics & Heredity

IDS Number: 1BQ5B

ISSN: 0950-9232

eISSN: 1476-5594

29-char Source Abbrev.: ONCOGENE

ISO Source Abbrev.: Oncogene

Source Item Page Count: 13

Funding:

Funding Agency	Grant Number
Department of Science and Technology, Ministry of Science and Technology (DST)	EMR/2017/004994
Department of Science and Technology (DST), Government of India	1/3(6)/2020/TMC/R D-II/3805
Department of Atomic Energy (DAE), Government of India	

We acknowledge the funding from the Department of Science and Technology (DST), Government of India grant EMR/2017/004994 (SD). Department of Atomic Energy (DAE), Government of India grant 1/3(7) /2020/TMC/R&D-II/8823 (SD). Department of Atomic Energy (DAE), Government of India grant 1/3(6) /2020/TMC/R&D-II/3805 (SD). We acknowledge ACTREC animal facility for timely supply of animals.

Output Date: 2025-05-06

Record 21 of 33

Title: Optimizing plant species selection for alleviating air pollution: Modified Anticipated Performance Index-based evaluation in Delhi, India

Author(s): Panwar, M (Panwar, Manjul); Smiti, K (Smiti, Kakul); Khatri, R (Khatri, Riddhi); Sailo, FL (Sailo, Freeda Lalmuanpuii); Tripathi, A (Tripathi, Ashutosh); Mina, U (Mina, Usha)

Source: ENVIRONMENTAL MONITORING AND ASSESSMENT **Volume:** 197 **Issue:** 5 **Article Number:** 566 **DOI:** 10.1007/s10661-025-13947-1 **Published Date:** 2025 APR 21

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: [Anonymous], 2021, India State of Forest Report (ISFR)
[Anonymous], 2016, Urban green spaces and health: a review of evidence
Balasubramanian A., 2018, International Journal of Environment and Climate Change, P27, DOI [10.9734/ijecc/2018/v8i127106, DOI 10.9734/IJECC/2018/V8I127106]
Ball A, 2015, PLOS ONE, V10, DOI 10.1371/journal.pone.0117659
Bhadauria S, 2022, ENVIRON MONIT ASSESS, V194, DOI 10.1007/s10661-022-10483-0
Central Pollution Control Board, 2023, Air quality status for Delhi & NCR
Correa-Ochoa M, 2022, ENVIRON SCI POLLUT R, V29, P7952, DOI 10.1007/s11356-021-16037-0
Dadkhah-Aghdash H, 2022, SCI REP-UK, V12, DOI 10.1038/s41598-022-19865-3
Dadvand P., 2019, Integrating human health into urban and transport planning, P409, DOI [10.1007/978-3-319-74983-9_20, DOI 10.1007/978-3-319-74983-9_20, 10.1007/978-3-319-74983-920]
Datta S, 2021, URBAN CLIM, V40, DOI 10.1016/j.uclim.2021.100995
de Bont J, 2024, LANCET PLANET HEALTH, V8, pe433, DOI 10.1016/S2542-5196(24)00114-1
Ding P, 2024, CITIES, V145, DOI 10.1016/j.cities.2023.104715
Enitan IT, 2022, ATMOSPHERE-BASEL, V13, DOI 10.3390/atmos13030374
European Space Agency (ESA), 2022, ESA WorldCover 10m 2022 v100
Forouzanfar MH, 2015, LANCET, V386, P2287, DOI 10.1016/S0140-6736(15)00128-2
Ghafari S, 2021, ENVIRON DEV SUSTAIN, V23, P1579, DOI 10.1007/s10668-020-00640-1
Goswami M, 2022, ENVIRON MONIT ASSESS, V194, DOI 10.1007/s10661-022-10384-2
Guttikunda SK, 2023, SUSTAINABILITY-BASEL, V15, DOI 10.3390/su15054209
Guttikunda SK, 2014, ATMOS ENVIRON, V95, P501, DOI 10.1016/j.atmosenv.2014.07.006
HISCOX JD, 1979, CAN J BOT, V57, P1332, DOI 10.1139/b79-163

Javanmard Z, 2020, ENVIRON SCI POLLUT R, V27, P38987, DOI 10.1007/s11356-020-09957-w
Jigyasu DK, 2023, HELIYON, V9, DOI 10.1016/j.heliyon.2023.e21184
Karmakar D, 2021, URBAN CLIM, V35, DOI 10.1016/j.uclim.2020.100741
Kashyap R, 2018, ENVIRON MONIT ASSESS, V190, DOI 10.1007/s10661-018-6682-7
Kaur M, 2017, ENVIRON SCI POLLUT R, V24, P18881, DOI 10.1007/s11356-017-9500-9
Kour N, 2023, ENVIRON MONIT ASSESS, V195, DOI 10.1007/s10661-023-11424-1
Latwal M, 2023, WATER AIR SOIL POLL, V234, DOI 10.1007/s11270-023-06194-y
Ma L, 2022, ECOL INDIC, V139, DOI 10.1016/j.ecolind.2022.108905
Mina U, 2021, ENVIRON MONIT ASSESS, V193, DOI 10.1007/s10661-021-09079-x
Ministry of Environment Forest and Climate Change, 2023, Air quality perspective in Delhi
Minotta G, 1996, FOREST ECOL MANAG, V86, P61, DOI 10.1016/S0378-1127(96)03796-6
Molnár VÉ, 2020, ECOL INDIC, V113, DOI 10.1016/j.ecolind.2020.106234
Moreira DP Jr, 2022, B ENVIRON CONTAM TOX, V108, P1104, DOI 10.1007/s00128-022-03460-3
Moreno-Ríos AL, 2022, GEOSCI FRONT, V13, DOI 10.1016/j.gsf.2021.101147
Pandey AK, 2015, URBAN FOR URBAN GREE, V14, P866, DOI 10.1016/j.ufug.2015.08.001
Patel K, 2023, ENVIRON MONIT ASSESS, V195, DOI 10.1007/s10661-022-10608-5
Pathak V, 2011, URBAN FOR URBAN GREE, V10, P61, DOI 10.1016/j.ufug.2010.06.008
Patil PY, 2023, ENVIRON MONIT ASSESS, V195, DOI 10.1007/s10661-023-11048-5
Paull NJ, 2020, INT J PHYTOREMEDIAT, V22, P594, DOI 10.1080/15226514.2019.1696744
Prajapati SK, 2008, J ENVIRON MANAGE, V88, P1343, DOI 10.1016/j.jenvman.2007.07.002
Rai PK, 2014, AIR QUAL ATMOS HLTH, V7, P93, DOI 10.1007/s11869-013-0217-8
Roy A, 2020, SCI TOTAL ENVIRON, V722, DOI 10.1016/j.scitotenv.2020.137622
Sahu C, 2020, SN APPL SCI, V2, DOI 10.1007/s42452-020-3120-6
Sapkota S., 2024, Nepal. Environmental Challenges, V14, DOI [10.1016/j.envc.2023.100818, DOI 10.1016/J.ENVC.2023.100818]
Sharma N, 2023, ENVIRON MONIT ASSESS, V195, DOI 10.1007/s10661-023-12085-w
Sharma Sheenu, 2023, Journal of Urban Ecology, V9, pjuac030, DOI 10.1093/jue/juac030
Shilky, 2024, Environmental Science and Pollution Research International, V31, P54962, DOI 10.1007/s11356-024-34802-9
Singh AK, 2023, ENVIRON MONIT ASSESS, V195, DOI 10.1007/s10661-023-11759-9
Singh SK, 2019, SUSTAIN ENVIRON RES, V29, DOI 10.1186/s42834-019-0039-y
SINGH SK, 1991, J ENVIRON MANAGE, V32, P45, DOI 10.1016/S0301-4797(05)80080-5
Speak AF, 2012, ATMOS ENVIRON, V61, P283, DOI 10.1016/j.atmosenv.2012.07.043
Tripathi Durga Prasad, 2023, Atmospheric Environment, DOI 10.1016/j.atmosenv.2023.119862
Venter ZS, 2024, P NATL ACAD SCI USA, V121, DOI 10.1073/pnas.2306200121
Verma J, 2023, ENVIRON MONIT ASSESS, V195, DOI 10.1007/s10661-022-10784-4
World Health Organization, 2022, WHO air quality database 2022
Yadav A., 2024, Materials Today
Yadav A, 2024, Materials Today: Proceedings, V102, P148
Yadav R, 2020, B ENVIRON CONTAM TOX, V105, P906, DOI 10.1007/s00128-020-03027-0
Zhang L., 2017, J NATURE SCI, V3, P1, DOI DOI 10.1093/JUE/JUX015
Zhang WK, 2018, FORESTS, V9, DOI 10.3390/f9110681
Zhang WK, 2017, FORESTS, V8, DOI 10.3390/f8030092

Cited Reference Count: 61

Abstract: Urban green spaces are crucial in mitigating air pollution and enhancing environmental quality. The Anticipated Performance Index (API) screens plant species based on ecological, economic, and biochemical/Air Pollution Tolerance Index (APTI) parameters. However, it assigns equal weight to all components and excludes key biophysical traits affecting plant stress and pollution tolerance. This study evaluated 25 plant species (20 trees, 4 shrubs/small trees, and 1 herb) across eight urban parks and four vertical gardens in Delhi using weighted API and Modified Anticipated Performance Index (M-API). M-API

was formulated by integrating five key biophysical traits-leaf weight, leaf area, specific leaf area, width/length ratio, and vein density. Results showed higher weighted API and M-API scores than the conventional API scores reported in literature. M-API scores classified none of the species as 'Poor' or 'Very Poor', with three shifting to 'Moderate,' one shifting from 'Best' to 'Excellent,' six from 'Very Good' to 'Excellent,' and five from 'Moderate' to 'Good'. Pearson correlation analysis showed a stronger correlation between dust load and M-API (0.31) than with API (0.21) or APTI (0.09), demonstrating M-API's effectiveness in capturing relevant plant traits. Among park species, Ficus benghalensis had the highest M-API score (7), whereas Syngonium podophyllum and Ficus benjamina scored highest (4) in vertical gardens. The study demonstrates M-API's better applicability in assessing plant potential under air pollution stress. By resolving API's limitations, M-API can help stakeholders choose optimal plant species for urban greening initiatives.

Accession Number: WOS:001472133800007

PubMed ID: 40257500

Language: English

Document Type: Article

Author Keywords: API; MAPI; APTI; Air pollution mitigation; Urban greening; Plant species selection

KeyWords Plus: TOLERANCE INDEX; CHLOROPHYLL; VEGETATION

Addresses: [Panwar, Manjul; Smiti, Kakul; Mina, Usha] Jawaharlal Nehru Univ, Sch Environm Sci, New Delhi 110067, India.
[Khatri, Riddhi] Cent Univ Gujarat, Sch Environm Sci & Sustainable Dev, Gandhinagar 382030, India.
[Sailo, Freeda Lalmuanpuii] Amity Univ, Amity Inst Environm Sci, Noida 201303, Uttar Pradesh, India.
[Tripathi, Ashutosh] Nagaland Univ, Dept Environm Sci, Zunheboto 798627, Nagaland, India.

Corresponding Address: Mina, U (corresponding author), Jawaharlal Nehru Univ, Sch Environm Sci, New Delhi 110067, India.

E-mail Addresses: panwar.manjul@gmail.com; kakulsmiti@gmail.com; riddhirk2020@gmail.com; freedasailo36@gmail.com; tripathiashutos@gmail.com; ushamina@jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi; Central University of Gujarat; Amity University Noida; Nagaland University

Publisher: SPRINGER

Publisher Address: VAN GODEWIJCKSTRAAT 30, 3311 GZ DORDRECHT, NETHERLANDS

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Environmental Sciences

Research Areas: Environmental Sciences & Ecology

IDS Number: 1RU6R

ISSN: 0167-6369

eISSN: 1573-2959

29-char Source Abbrev.: ENVIRON MONIT ASSESS

ISO Source Abbrev.: Environ. Monit. Assess.

Source Item Page Count: 23

Funding:

Funding Agency	Grant Number
University Grants Commission, Government of India	

Manjul Panwar is thankful to University Grants Commission, Government of India for providing the Senior Research Fellowship.

Output Date: 2025-05-06

Record 22 of 33

Title: Methodological and empirical insights from gender vulnerability and adaptation responses to climate change in South Asia - a systematic review

Author(s): Choudhary, A (Choudhary, Akshita); Ajgaonkar, H (Ajgaonkar, Hridaya); Chauhan, N (Chauhan, Neha); Kaechele, H (Kaechele, Harald); Joshi, PK (Joshi, P. K.)

Source: CLIMATE AND DEVELOPMENT **DOI:** 10.1080/17565529.2025.2484361 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 10

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 1

Usage Count (Since 2013): 1

Cited References: Abbasi SS, 2019, ENVIRON DEV, V31, P34, DOI 10.1016/j.envdev.2018.12.005
Ahmad D, 2021, ENVIRON DEV SUSTAIN, V23, P865, DOI 10.1007/s10668-020-00612-5
Ahmed S., 2009, Gender and Development, V17, P33, DOI 10.1080/13552070802696896
Ahmed S, 2023, J ENVIRON PLANN MAN, V66, P2691, DOI 10.1080/09640568.2022.2082928
Alam A, 2022, INT J DISAST RISK RE, V82, DOI 10.1016/j.ijdrr.2022.103342
Alston M, 2016, GENDER PLACE CULT, V23, P1450, DOI 10.1080/0966369X.2016.1204997
Alston M, 2014, WOMEN STUD INT FORUM, V47, P287, DOI 10.1016/j.wsif.2013.01.016
Amarnath G., 2017, Mapping multiple climate-related hazards in South Asia, V170
[Anonymous], 2013, GENDER EQUALITY FOOD
[Anonymous], 2007, CLIMATE CHANGE IMPAC, DOI 10.1029/2005JD006289
[Anonymous], 2022, World Risk Report
[Anonymous], 2022, CLIMATE CHANGE 2022, P2022
Aryal J. P., 2014, Innovation in Indian agriculture: Ways forward
Ayanlade A, 2023, HUM SOC SCI COMMUN, V10, DOI 10.1057/s41599-023-02380-9
Azad AK, 2013, INT J DISAST RISK SC, V4, P190, DOI 10.1007/s13753-013-0020-z
Azad MJ, 2023, INT J DISAST RISK RE, V90, DOI 10.1016/j.ijdrr.2023.103660
Banerjee S, 2019, CLIMATIC CHANGE, V157, P587, DOI 10.1007/s10584-019-02572-w
Bari ABMM, 2024, CLIM RISK MANAG, V43, DOI 10.1016/j.crm.2023.100581
Bastakoti GB, 2020, CLIM DEV, V12, P547, DOI 10.1080/17565529.2019.1660604
Bhattarai B, 2020, CLIM DEV, V12, P876, DOI 10.1080/17565529.2019.1701971
Bhattarai B, 2015, WORLD DEV, V70, P122, DOI 10.1016/j.worlddev.2015.01.003
Carr ER, 2014, GEOGR COMPASS, V8, P182, DOI 10.1111/gec3.12121
Chakraborty A, 2018, REG ENVIRON CHANGE, V18, P1783, DOI 10.1007/s10113-018-1309-7
Chanana-Nag N, 2020, CLIMATIC CHANGE, V158, P13, DOI 10.1007/s10584-018-2233-z
Das S, 2024, CLIMATIC CHANGE, V177, DOI 10.1007/s10584-024-03716-3
Datey A, 2023, GENDER WORK ORGAN, V30, P158, DOI 10.1111/gwao.12667
Dev DS, 2023, CLIM DEV, V15, P829, DOI 10.1080/17565529.2023.2166781
Djoudi H, 2016, AMBIO, V45, pS248, DOI 10.1007/s13280-016-0825-2
Ferdous J, 2019, ENVIRON DEV, V31, P88, DOI 10.1016/j.envdev.2018.10.003
Garai Joydeb, 2016, RGCI, V16, P79, DOI 10.5894/rgci656
Ghosh A. K., 2018, Review of Womens Studies, Economic and Political Weekly, V53, P63
Gioli G, 2014, REG ENVIRON CHANGE, V14, P1151, DOI 10.1007/s10113-013-0550-3

Goodrich CG, 2019, ENVIRON DEV, V31, P1, DOI 10.1016/j.envdev.2019.01.001
Goodrich CG, 2019, ENVIRON DEV, V31, P78, DOI 10.1016/j.envdev.2018.11.006
Goodrich CG, 2019, ENVIRON DEV, V31, P9, DOI 10.1016/j.envdev.2018.11.003
Guragain UP, 2022, SUSTAINABILITY-BASEL, V14, DOI 10.3390/su141610423
Habib Nusrat, 2021, Sarhad Journal of Agriculture, V37, P1269, DOI 10.17582/journal.sja /2021/37.4.1269.1279
Hahn MB, 2009, GLOBAL ENVIRON CHANG, V19, P74, DOI 10.1016/j.gloenvcha.2008.11.002
Hossen MA, 2021, WATER-SUI, V13, DOI 10.3390/w13141922
Huq H, 2023, SUSTAINABILITY-BASEL, V15, DOI 10.3390/su152015041
ICIMOD, 2022, State of gender equality and climate change in South Asia and Hindu Kush Himalaya
Intergovernmental Panel on Climate Change, 2014, Contributions of Working Groups I, II and III to the Fourth Assessment Report
Islam TMT, 2021, ASIAN DEVELOP REV, V38, P142, DOI 10.1162/adev_a_00161
Jerin T, 2023, INT J DISAST RISK RE, V95, DOI 10.1016/j.ijdrr.2023.103851
Khadka A, 2024, ENVIRON DEV, V52, DOI 10.1016/j.envdev.2024.101070
Khalil MB, 2020, CLIM DEV, V12, P664, DOI 10.1080/17565529.2019.1676188
Khandekar N, 2019, ENVIRON DEV, V31, P97, DOI 10.1016/j.envdev.2019.02.001
Kher J, 2015, INDIAN J GEND STUD, V22, P15, DOI 10.1177/0971521514556943
Krishnan S, 2023, CLIM DEV, V15, P404, DOI 10.1080/17565529.2022.2092052
Kuran CHA, 2020, INT J DISAST RISK RE, V50, DOI 10.1016/j.ijdrr.2020.101826
Lambrou Y., 2013, Research, Action and Policy: Addressing the Gendered Impacts of Climate Change, P189, DOI [10.1007/978-94-007-5518-5_14, DOI 10.1007/978-94-007-5518-5_14]
Lau JD, 2021, NAT CLIM CHANGE, V11, P186, DOI 10.1038/s41558-021-00999-7
Manjula M., 2021, ORF Issue Brief
Memon MH, 2023, WEATHER CLIM SOC, V15, P829, DOI 10.1175/WCAS-D-21-0113.1
Ministry of Environment Forest and Climate Change (MoEFCC), 2022, National Adaptation Plan of Bangladesh (2023-2050)
Mohanty Abinash, 2021, Mapping Indias Climate Vulnerability: A District-Level Assessment
Nahian M. A., 2013, P 4 INT C WAT FLOOD, P9
Naz F, 2021, NAT HAZARDS, V106, P655, DOI 10.1007/s11069-020-04482-y
Nizami A, 2017, CLIM DEV, V9, P662, DOI 10.1080/17565529.2017.1318742
Ogra MV, 2015, EARTH SYST DYNAM, V6, P505, DOI 10.5194/esd-6-505-2015
Onta N, 2011, MT RES DEV, V31, P351, DOI 10.1659/MRD-JOURNAL-D-10-00085.1
Paudyal BR, 2019, FRONT SUSTAIN FOOD S, V3, DOI 10.3389/fsufs.2019.00066
Pearse R, 2017, WIRES CLIM CHANGE, V8, DOI 10.1002/wcc.451
Rao C. A. R., 2017, Indian Journal of Agricultural Economics, V72, P375
Rao N, 2020, WORLD DEV, V125, DOI 10.1016/j.worlddev.2019.104667
Ravera F, 2019, AGR HUM VALUES, V36, P455, DOI 10.1007/s10460-018-09907-w
Ravera F, 2016, AMBIO, V45, pS335, DOI 10.1007/s13280-016-0833-2
Roy S, 2022, FRONT CLIM, V4, DOI 10.3389/fclim.2022.841488
Singh C, 2021, CLIM POLICY, V21, P958, DOI 10.1080/14693062.2021.1953434
Singh P, 2023, ASIAN J SOC SCI, V51, P18, DOI 10.1016/j.ajss.2022.09.004
Singh R, 2013, INDIAN J GEND STUD, V20, P453, DOI 10.1177/0971521513495293
Singh RK, 2017, APPL GEOGR, V86, P41, DOI 10.1016/j.apgeog.2017.06.018
Sivakumar MVK, 2011, CLIMATE CHANGE AND FOOD SECURITY IN SOUTH ASIA, P13, DOI 10.1007/978-90-481-9516-9_2
South Asian Association for Regional Cooperation, 1985, Charter of the South Asian Association for Regional Cooperation
Sugden F, 2014, GLOBAL ENVIRON CHANG, V29, P258, DOI 10.1016/j.gloenvcha.2014.10.008
Sujakhu NM., 2019, SUSTAINABILITY-BASEL, V11, P2977, DOI [DOI 10.3390/su11102977, 10.3390/su11102977]

Tanny NZ, 2017, INDIAN J GEND STUD, V24, P360, DOI 10.1177/0971521517716808
Tawfik GM, 2019, TROP MED HEALTH, V47, DOI 10.1186/s41182-019-0165-6
The World Bank Group, 2021, Climate change action plan 2021-2025: South Asia road map
Udas PB, 2019, ENVIRON DEV, V31, P43, DOI 10.1016/j.envdev.2019.05.002
UNFCCC, 2024, UN FRAM CONV CLIM CH
Venkatasubramanian K, 2018, DEV CHANGE, V49, P1580, DOI 10.1111/dech.12448
Vercillo S, 2022, AMBIO, V51, P1045, DOI 10.1007/s13280-021-01631-w
Xenarios S, 2017, ENVIRON DEV, V24, P156, DOI 10.1016/j.envdev.2017.05.002
Yadav SS, 2018, J ARID ENVIRON, V149, P4, DOI 10.1016/j.jaridenv.2017.08.001

Cited Reference Count: 85

Abstract: Gender is a critical social component in determining vulnerabilities and shaping adaptive responses to climate change impacts. However, climate vulnerability and adaptation studies often fail to incorporate the interaction between gender and various socio-economic and cultural factors. This study analyses research articles from South Asia to examine empirical findings concerning gender vulnerability and adaptation. Systematically reviewing articles from 2000 to 2024, we identified 53 articles based on gender vulnerability and adaptation strategies in response to climate change. This review provides an in-depth account of methodological and empirical evidence on gender vulnerability, and adaptation, to climate change. More than half of the articles focus exclusively on the impact of climate change on gender vulnerability and adaptation practises within the agricultural sector. Another widely discussed theme identified is disaster, along with agrobiodiversity, forestry, and water. The study classifies methodological frameworks into two groups: gender-sensitive approaches, which consider other socioeconomic and cultural factors intersecting with gender, and less gender-sensitive approaches primarily relying on gender-disaggregated data. The latter often overlooks the intra-gender differences while assessing gender-differentiated vulnerabilities and capacities. The study strongly recommends further exploration of the intersectionality approach to account for a better understanding of complex gender and power relations, ultimately enhancing policy planning and implementation for more robust approaches.

Accession Number: WOS:001462446000001

Language: English

Document Type: Review; Early Access

Author Keywords: Gender; Climate change; Vulnerability; Adaptation; Intersectionality; South Asia

KeyWords Plus: COMMUNITY; PERCEPTIONS; WOMEN; AGROBIODIVERSITY; INEQUALITIES; STRATEGIES; LEVEL; BASIN

Addresses: [Choudhary, Akshita; Joshi, P. K.] Jawaharlal Nehru Univ, Sch Environm Sci, New Delhi 110067, India.
[Ajgaonkar, Hridaya] Univ Bonn, Dept South Asian Studies, Bonn, Germany.
[Chauhan, Neha] Leuphana Univ, Inst Ecol, Luneburg, Germany.
[Kaechele, Harald] Leibniz Ctr Agr Landscape Res ZALF, Muncheberg, Germany.

Corresponding Address: Choudhary, A (corresponding author), Jawaharlal Nehru Univ, Sch Environm Sci, New Delhi 110067, India.

E-mail Addresses: choudhary_akshita@yahoo.com

Affiliations: Jawaharlal Nehru University, New Delhi; University of Bonn; Leuphana University Luneburg; Leibniz Association; Leibniz Zentrum fur Agrarlandschaftsforschung (ZALF)

Publisher: TAYLOR & FRANCIS LTD

Publisher Address: 2-4 PARK SQUARE, MILTON PARK, ABINGDON OR14 4RN, OXON, ENGLAND

Web of Science Index: Social Science Citation Index (SSCI)

Web of Science Categories: Development Studies; Environmental Studies

Research Areas: Development Studies; Environmental Sciences & Ecology

IDS Number: 1DN1C
ISSN: 1756-5529
eISSN: 1756-5537
29-char Source Abbrev.: CLIM DEV
ISO Source Abbrev.: Clim. Dev.
Source Item Page Count: 12
Output Date: 2025-05-06

Record 23 of 33

Title: Satellite Traces: Ionogram Signatures of Bottom-Side Upwelling Structures - A Simulation Study

Author(s): Ankita, M (Ankita, M.); Ram, ST (Ram, S. Tulasi); Yokoyama, T (Yokoyama, T.); Tsunoda, RT (Tsunoda, R. T.); Dimri, AP (Dimri, A. P.); Mondal, S (Mondal, S.); Nayak, C (Nayak, Chinmaya)

Source: GEOPHYSICAL RESEARCH LETTERS **Volume:** 52 **Issue:** 7 **Article Number:** e2024GL114119 **DOI:** 10.1029/2024GL114119 **Published Date:** 2025 APR 16

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 3

Usage Count (Since 2013): 3

Cited References: Abdu MA, 2009, ANN GEOPHYS-GERMANY, V27, P2607, DOI 10.5194/angeo-27-2607-2009
ABDU MA, 1981, J GEOPHYS RES-SPACE, V86, P6836, DOI 10.1029/JA086iA08p06836
Ankita M, 2024, Zenodo, DOI 10.5281/ZENODO.13346426
Ankita M, 2024, RADIO SCI, V59, DOI 10.1029/2024RS007955
Ankita M, 2023, RADIO SCI, V58, DOI 10.1029/2023RS007808
Ankita M, 2023, SPACE WEATHER, V21, DOI 10.1029/2022SW003369
Ankita M., 2024, **DATA OBJECT**, DOI 10.5281/zenodo.14272131
DUNGEY JW, 1956, J ATMOS TERR PHYS, V9, P304, DOI 10.1016/0021-9169(56)90148-9
Fejer BG, 1999, J GEOPHYS RES-SPACE, V104, P19859, DOI 10.1029/1999JA900271
HASELGROVE J, 1963, J ATMOS TERR PHYS, V25, P397, DOI 10.1016/0021-9169(63)90173-9
Haselgrove J., 1954, RROC CAMB C PHYS PHY, P355
Huang CS, 1996, J GEOPHYS RES-SPACE, V101, P283, DOI 10.1029/95JA02211
Kelley M. C., 1989, The Earths ionosphere plasma physics and electrodynamics
Lee CC, 2005, ANN GEOPHYS-GERMANY, V23, P745, DOI 10.5194/angeo-23-745-2005
LYON AJ, 1961, J ATMOS TERR PHYS, V21, P100, DOI 10.1016/0021-9169(61)90104-0
MARUYAMA T, 1988, J GEOPHYS RES, V93, P14611, DOI 10.1029/JA093iA12p14611
McNicol R. W. E., 1956, Australian Journal of Physics, V9, P247, DOI [10.1071/ph560247, DOI 10.1071/PH560247]
MENDILLO M, 1992, J GEOPHYS RES-SPACE, V97, P13865, DOI 10.1029/92JA00647
Ram ST, 2006, ANN GEOPHYS-GERMANY, V24, P1609
Ram ST, 2020, GEOPHYS RES LETT, V47, DOI 10.1029/2020GL087256
Ram ST, 2014, J GEOPHYS RES-SPACE, V119, P2288, DOI 10.1002/2013JA019712
Ram ST, 2012, RADIO SCI, V47, DOI 10.1029/2011RS004870
ROTTGER J, 1973, J ATMOS TERR PHYS, V35, P1195, DOI 10.1016/0021-9169(73)90016-0
Singh S, 1997, J GEOPHYS RES-SPACE, V102, P7399, DOI 10.1029/96JA03998
Tsai LC, 2014, TERR ATMOS OCEAN SCI, V25, P401, DOI 10.3319/TAO.2013.12.19.01(AA)
Tsunoda RT, 2015, PROG EARTH PLANET SC, V2, DOI 10.1186/s40645-015-0038-5
Tsunoda RT, 2011, GEOPHYS RES LETT, V38, DOI 10.1029/2011GL049173

Tsunoda RT, 2008, GEOPHYS RES LETT, V35, DOI 10.1029/2008GL035706
TSUNODA RT, 1985, J GEOPHYS RES-SPACE, V90, P447, DOI 10.1029/JA090iA01p00447
TSUNODA RT, 1979, GEOPHYS RES LETT, V6, P873, DOI 10.1029/GL006i011p00873
Tsunoda RT, 2005, GEOPHYS RES LETT, V32, DOI 10.1029/2005GL022512
TSUNODA RT, 1981, J GEOPHYS RES-SPACE, V86, P3610, DOI 10.1029/JA086iA05p03610
TSUNODA RT, 1981, J GEOPHYS RES-SPACE, V86, P139, DOI 10.1029/JA086iA01p00139
Whalen JA, 2002, J GEOPHYS RES-SPACE, V107, DOI 10.1029/2001JA000039
Yokoyama T, 2014, J GEOPHYS RES-SPACE, V119, DOI 10.1002/2014JA020708

Cited Reference Count: 35

Abstract: Satellite Traces (STs) are the important ionogram signatures for the presence of upwellings in the bottom-side ionosphere, which provide the necessary seed perturbation for the development of equatorial plasma bubbles (EPBs). In this study, a virtual ionosonde experiment is simulated to investigate the various ST signatures under the presence of shallow, deep, overhead, and off-centered upwellings in the bottom-side ionosphere. It is shown that STs occur at higher and lower virtual heights than the main ionogram trace for the off-centered and overhead upwellings, respectively. The height separation between the main trace and STs increases with the deepening of overhead upwellings. Further, a proof-of-concept is demonstrated that multiple STs from ionograms can be used to reconstruct the spatial structure of bottom-side upwellings, if the precise Angle-of-Arrival information can be resolved from the wide beam Ionosonde systems, and can have potential applications in predicting the occurrence of EPBs.

Accession Number: WOS:001459185900001

Language: English

Document Type: Article

Author Keywords: equatorial plasma bubbles; large scale wave structure; upwellings; satellite traces; ionosonde

KeyWords Plus: EQUATORIAL-SPREAD-F; BACKSCATTER PLUMES; WAVE STRUCTURE; EVOLUTION; IRREGULARITIES; SCINTILLATIONS; GENERATION; GROWTH; ONSET; DRIFT

Addresses: [Ankita, M.; Ram, S. Tulasi; Dimri, A. P.; Mondal, S.; Nayak, Chinmaya] Indian Inst Geomagnetism, Navi Mumbai, India.
[Yokoyama, T.] Kyoto Univ, Res Inst Sustainable Humanosphere, Kyoto, Japan.
[Tsunoda, R. T.] SRI Int, Ctr Geospace Studies, Harrisonburg, VA USA.
[Dimri, A. P.] Jawaharlal Nehru Univ JNU, Delhi, India.

Corresponding Address: Ram, ST (corresponding author), Indian Inst Geomagnetism, Navi Mumbai, India.

E-mail Addresses: tulasiram.s@iigm.res.in

Affiliations: Department of Science & Technology (India); Indian Institute of Geomagnetism (IIG); Kyoto University; SRI International; Jawaharlal Nehru University, New Delhi

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Mondal, Subarna	JEO-6050-2023	
Nayak, Chinmaya	D-7586-2012	

Publisher: AMER GEOPHYSICAL UNION

Publisher Address: 2000 FLORIDA AVE NW, WASHINGTON, DC 20009 USA

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Geosciences, Multidisciplinary

Research Areas: Geology

IDS Number: 0YS2Z

ISSN: 0094-8276
eISSN: 1944-8007
29-char Source Abbrev.: GEOPHYS RES LETT
ISO Source Abbrev.: Geophys. Res. Lett.
Source Item Page Count: 9
Funding:

Funding Agency	Grant Number
JSPS KAKENHI	
Indian Institute of Geomagnetism, Department of Science and Technology	
Office of Naval Research	
	JP21H04518
	JP22K21345
	N000142412328

This work is supported by the Indian Institute of Geomagnetism, Department of Science and Technology, Govt. of India. TY was supported by JSPS KAKENHI Grant JP21H04518 and JP22K21345. RTT was supported under Grant N000142412328 from the Office of Naval Research.

Output Date: 2025-05-06

Record 24 of 33

Title: Disparate hypsometry and consequential recession pattern variations of the glaciers originating from a single source in the Himachal Himalaya, India

Author(s): Deswal, S (Deswal, Sanjay); Prakash, S (Prakash, Satya); Chakraborty, E (Chakraborty, Elora); Sharma, MC (Sharma, Milap Chand); Saini, R (Saini, Rakesh); Kumar, P (Kumar, Parvendra); Dalal, P (Dalal, Padma); Kumar, P (Kumar, Pawan)

Source: JOURNAL OF EARTH SYSTEM SCIENCE **Volume:** 134 **Issue:** 2 **Article Number:** 85 **DOI:** 10.1007/s12040-025-02545-x **Published Date:** 2025 APR 7

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Benn DI, 2005, QUATERN INT, V138, P8, DOI 10.1016/j.quaint.2005.02.003
Benn DI, 1998, J GEOL SOC LONDON, V155, P353, DOI 10.1144/gsjgs.155.2.0353
Benn DI, 2002, QUATERN INT, V97-8, P3, DOI 10.1016/S1040-6182(02)00048-4
Bolch T, 2012, SCIENCE, V336, P310, DOI 10.1126/science.1215828
Chand P, 2019, Environmental change in the Himalayan Region: Twelve case studies, P89, DOI [10.1007/978-3-030-03362-0_5, DOI 10.1007/978-3-030-03362-05, 10.1007/978-3-030-03362-05]
Das S, 2019, J GLACIOL, V65, P13, DOI 10.1017/jog.2018.77
Deswal S, 2023, GEOGR ANN A, V105, P1, DOI 10.1080/04353676.2022.2148082
Deswal S, 2017, GEOSCIENCES, V7, DOI 10.3390/geosciences7030064
Dobhal DP, 2013, J GLACIOL, V59, P961, DOI 10.3189/2013JoG12J180
Dobhal DP, 2004, CURR SCI INDIA, V86, P692
FURBISH DJ, 1984, J GLACIOL, V30, P199, DOI 10.3189/S0022143000005931

Harris I, 2020, SCI DATA, V7, DOI 10.1038/s41597-020-0453-3
Huss M, 2018, NAT CLIM CHANGE, V8, P135, DOI 10.1038/s41558-017-0049-x
Jain SK, 2009, WATER RESOUR MANAG, V23, P71, DOI 10.1007/s11269-008-9265-5
KULKARNI AV, 1992, J GLACIOL, V38, P101, DOI 10.3189/S0022143000009631
Majeed Z, 2020, J GEOL SOC INDIA, V95, P36, DOI 10.1007/s12594-020-1384-5
MAYEWSKI PA, 1979, ARCTIC ALPINE RES, V11, P267, DOI 10.2307/1550417
McGrath D, 2017, EARTHS FUTURE, V5, P324, DOI 10.1002/2016EF000479
Mehta M, 2014, HOLOCENE, V24, P1336, DOI 10.1177/0959683614540947
Mehta M, 2014, CURR SCI INDIA, V107, P281
Mehta M, 2011, PROG PHYS GEOG, V35, P721, DOI 10.1177/0309133311411760
Oberoi LK., 2001, GSI Spec. Publ, V65, P57
OERLEMANS J, 1989, GLAC QUAT G, V6, P353
Owen LA, 2005, QUATERNARY SCI REV, V24, P1391, DOI 10.1016/j.quascirev.2004.10.014
Patel LK, 2018, ENVIRON EARTH SCI, V77, DOI 10.1007/s12665-018-7379-5
Paterson WSB., 2000, Physics of glaciers, DOI DOI 10.1016/C2009-0-14802-X
Pellitero R, 2015, COMPUT GEOSCI-UK, V82, P55, DOI 10.1016/j.cageo.2015.05.005
Prakash S, 2022, GEOCARTO INT, V37, P6422, DOI 10.1080/10106049.2021.1939437
Raina V.K., 2008, Glacier atlas of India
Rani S, 2018, SUSTAIN DEV GOAL SER, P101, DOI 10.1007/978-3-319-56469-2_7
Raper SCB, 2009, CRYOSPHERE, V3, P183, DOI 10.5194/tc-3-183-2009
Raper SCB, 2006, NATURE, V439, P311, DOI 10.1038/nature04448
Salmi T A M, 2002, Air. Qual. Res., P7
Schmidt S, 2012, ARCT ANTARCT ALP RES, V44, P107, DOI 10.1657/1938-4246-44.1.107
Singh S, 2007, SEDIMENT GEOL, V196, P47, DOI 10.1016/j.sedgeo.2006.06.005
TEWARI AP, 1981, J GEOL SOC INDIA, V22, P342

Cited Reference Count: 36

Abstract: We present here a study of the diverse regimes and behaviour of the glaciers from a single source with varied aspects and geometries. We have analyzed the terminus recession pattern and frontal area loss of five glaciers descending on various aspects from the Menthosa peak (Himachal Himalaya). All five studied glaciers show the recession of terminuses during the study periods, though with an erratic pattern of recession rates. The largest glacier among all, i.e., the Harruin glacier, is retreating at an overall annual rate of 8.13 +/- 0.21 ma-1 since 1921, with a maximum retreat rate of 10.01 +/- 0.36 ma-1 between 1971 and 2000 and a minimum rate of 5.78 +/- 0.55 ma-1 during the most recent phase, i.e., 2013-2021. On the contrary, Menthosa and the Churput glaciers show the fastest retreat rates of 20.65 +/- 1.55 and 13.54 +/- 1.55 ma-1, respectively, during the most recent phase (2013-2021). Contrastingly, the Zambu and the Chasak glaciers show the fastest annual retreat rates during the 2000-2013 period (23.77 +/- 0.9 and 9.3 +/- 0.9 ma-1, respectively). We analyzed the climate data for the last century, however, no micro-climatic data was available. Therefore, climatic trends apply to all the glaciers. Therefore, we attribute the disparate glacier recession pattern to the variations in the topographic factors, mainly glacier hypsometry and valley geometry.

Accession Number: WOS:001465534100002

Language: English

Document Type: Article

Author Keywords: Glacier recession; Himachal Himalaya; Miyar Valley; Pangi Valley; glacier hypsometry

KeyWords Plus: GARHWAL-HIMALAYA; CHORABARI GLACIER; RESPONSE-TIME; MASS-BALANCE; VALLEY; GLACIATION; LADAKH

Addresses: [Deswal, Sanjay] CHL Govt Coll Chhara, Dept Commerce, Chhara 124504, Haryana, India. [Prakash, Satya] Govt Arya Degree Coll Nurpur, Dept Geog, Kangra 176202, Himachal Prades, India. [Chakraborty, Elora; Sharma, Milap Chand] Jawaharlal Nehru Univ, Ctr Study Reg Dev, New Delhi 110067,

India.
[Saini, Rakesh] Hemwati Nandan Bahuguna Garhwal Univ, Dept Geog, Srinagar, Uttrakhand, India.
[Kumar, Parvendra] Dr Hari Singh Gour Cent Univ, Dept Gen & Appl Geog, Sagar 470003, India.
[Dalal, Padma] Govt Coll Women, Dept Geog, Sampla 124501, Haryana, India.
[Kumar, Pawan] Chaudhary Bansi Lal Univ, Fac Phys Sci, Dept Geog, Bhiwani, Haryana, India.

Corresponding Address: Deswal, S (corresponding author), CHL Govt Coll Chhara, Dept Commerce, Chhara 124504, Haryana, India.

E-mail Addresses: sdeswal.jnu@gmail.com

Affiliations: Jawaharlal Nehru University, New Delhi; Hemwati Nandan Bahuguna Garhwal University; Dr. Hari Singh Gour University

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Deswal, Sanjay	AAD-9934-2020	
Chakraborty, Elora	LKN-4065-2024	

Publisher: INDIAN ACAD SCIENCES

Publisher Address: C V RAMAN AVENUE, SADASHIVANAGAR, P B #8005, BANGALORE 560 080, INDIA

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Geosciences, Multidisciplinary; Multidisciplinary Sciences

Research Areas: Geology; Science & Technology - Other Topics

IDS Number: 1IB5S

ISSN: 2347-4327

eISSN: 0973-774X

29-char Source Abbrev.: J EARTH SYST SCI

ISO Source Abbrev.: J. Earth Syst. Sci.

Source Item Page Count: 17

Funding:

Funding Agency	Grant Number
Science and Engineering Research Board	SERB/CRG/2021/004031
Science and Engineering Research Board (SERB) New Delhi	
Indian Council of Social Science Research (ICSSR)	

Sanjay Deswal is thankful to the Govt. College Chhara for providing the necessary time, space and logistics for this work. Sanjay Deswal and Rakesh Saini are grateful to the Science and Engineering Research Board (SERB) New Delhi for providing financial support for the research project SERB/CRG/2021/004031. Elora Chakraborty is thankful to the Indian Council of Social Science Research (ICSSR) for providing a full-term doctoral fellowship for this collaborative work with the lead author.

Output Date: 2025-05-06

Record 25 of 33

Title: Anthropogenic influence on groundwater metal toxicity and risk to human health assessment in Umaria coalfield of Madhya Pradesh, India

Author(s): Tiwari, AK (Tiwari, Ashwani Kumar); Giri, S (Giri, Soma); Mahato, MK (Mahato, Mukesh Kumar); Singh, AK (Singh, Abhay Kumar)

Source: SCIENTIFIC REPORTS **Volume:** 15 **Issue:** 1 **Article Number:** 12007 **DOI:** 10.1038/s41598-025-88783-x **Published Date:** 2025 APR 8

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Agrawal P, 2011, ENVIRON FORENSICS, V12, P92, DOI 10.1080/15275922.2011.547437
Alhamed M, 2014, ENVIRON EARTH SCI, V72, P3251, DOI 10.1007/s12665-014-3230-9
Ali S, 2024, SCI REP-UK, V14, DOI 10.1038/s41598-024-56056-8
[Anonymous], 2001, WATER QUALITY CRITER
[Anonymous], 2010, National Institute of Standards and Technology: the 2009-2010 Criteria for Performance Excellence (MBNQA)
[Anonymous], 2004, Risk assessment guidance for superfund, Volume I: Human health evaluation manual (Part E, supplemental guidance for dermal risk assessment)
Baruah P, 2024, ENVIRON DEV SUSTAIN, V26, P6517, DOI 10.1007/s10668-023-02973-z
Bharat Abhishek Pandey, 2024, Chemosphere, V352, P141452, DOI 10.1016/j.chemosphere.2024.141452
Bhuiyan MAH., 2010, Environ. Geochem. Health, V32, P391, DOI [10.1007/s10653-010-9337, DOI 10.1007/S10653-010-9337]
Bhuiyan MAH, 2010, J HAZARD MATER, V179, P1065, DOI 10.1016/j.jhazmat.2010.03.114
Bureau of Indian Standards, 2012, Drinking water specifications, IS:10500
CGWB (Central Ground Water Board), 2013, District ground water information booklet, Umaria District, Madhya Pradesh, Published by Ministry of Water Resources, Central Ground Water Board
Chen L., 2021, J. Environ. Manag, V285, P112113, DOI [10.1016/j.jenvman.2021.112113, DOI 10.1016/J.JENVMAN.2021.112113]
Chidambaram S., 2012, Environmentalist, V32, P371, DOI 10.1007/s10669-012-9398-1
Chowdhury U.K., 2001, ENVIRON SCI-TOKYO, V8, P393
Clarke Keith.C., 1995, ANAL COMPUTER CARTOG
Davis AP, 2001, CHEMOSPHERE, V44, P997, DOI 10.1016/S0045-6535(00)00561-0
De Miguel E, 2007, CHEMOSPHERE, V66, P505, DOI 10.1016/j.chemosphere.2006.05.065
Dhakate R., 2008, J GEOG REG PLANN, V1, P58
Dhakate R, 2013, J GEOL SOC INDIA, V82, P403, DOI 10.1007/s12594-013-0167-7
Faustman EM, 2000, ENVIRON HEALTH PERSP, V108, P13, DOI 10.2307/3454629
FISHBEIN L, 1981, ENVIRON HEALTH PERSP, V40, P43, DOI 10.2307/3429220
Geological Survey of India, 2023, Report on groundwater quality and heavy metal contamination in the Wardha Valley Coalfields, India
Ghosh A, 2023, J INDIAN SOC REMOTE, V51, P1757, DOI 10.1007/s12524-023-01733-w
Ghosh A, 2023, GROUNDWATER SUST DEV, V22, DOI 10.1016/j.gsd.2023.100958
Ginsberg G, 2004, PEDIATRICS, V113, P973
Giri S., 2023, Total Environ. Res. Themes, V8, DOI [10.1016/j.totert.2023.100070, DOI 10.1016/J.TOTERT.2023.100070]
Giri S, 2012, ENVIRON MONIT ASSESS, V184, P1351, DOI 10.1007/s10661-011-2045-3
Gordon CW., 2019, Environ. Health Perspect, V127, P085001
Howitt D., 2005, INTRO SPSS PSYCHOL S, V3rd, DOI DOI 10.1016/j.jhazmat.2008.12.131
IARC, 2011, overall evaluations of carcinogenicity: an updating of IARC monographs, V1 to 42
ICMR. (Indian Council of Medical Research), 2009, Natl. Inst. Nutr.
Ipeaiyeda AR, 2008, B CHEM SOC ETHIOPIA, V22, P339

Jain CK, 2010, ENVIRON MONIT ASSESS, V166, P663, DOI 10.1007/s10661-009-1031-5
Järup L, 2003, BRIT MED BULL, V68, P167, DOI 10.1093/bmb/ldg032
Jayaprakash M, 2008, ENVIRON GEOL, V54, P855, DOI 10.1007/s00254-007-0868-6
Johnson L.E., 2008, Geographic Information Systems in water resources engineering, DOI DOI 10.1201/9781420069143
Jordaan A., 2010, Environ. Sci. Policy, V13, P749
Kefeni KK., 2017, Environ. Sci. Pollut. Res, V24, P15002, DOI [10.1007/s11356-017-9475-x, DOI 10.1007/S11356-017-9475-X]
Kolsi SH, 2013, ENVIRON EARTH SCI, V70, P2215, DOI 10.1007/s12665-013-2377-0
Kumar S., 2019, Water Qual. Res. J, V54, P405
Li KJ, 2018, INT BIODETER BIODEGR, V128, P148, DOI 10.1016/j.ibiod.2017.03.026
Liu J., 2019, Sci. Total Environ, V678, P124
Lohse J., 2001, Heavy metals in motor vehicles 2. Report compiles for the Directorate general Environment, Nuclear safety and Civil protection of the Commission of the European Communities
Mahato MK, 2016, EXPOS HEALTH, V8, P265, DOI 10.1007/s12403-016-0201-2
McHugh L., 2017, Issues in Environmental Science and Technology No. 45 Coal in the 21st Century: Energy Needs, Chemicals and Environmental Controls
Miller CL., 2018, Int. J. Environ. Res. Public. Health, V15, P1200
Morrow RK., 2018, Environ. Pollut, V242, P1049, DOI [10.1016/j.envpol.2018.07.008, DOI 10.1016/J.ENVPOL.2018.07.008]
Needleman H, 2004, ANNU REV MED, V55, P209, DOI 10.1146/annurev.med.55.091902.103653
Neogi B., 2023, Environmental Nanotechnology, Monitoring & Management, V20
Nephalama A, 2016, MINING MEETS WATER - CONFLICTS AND SOLUTIONS, P430
Nkosi N., 2020, Groundw. Sustain. Develop, V11, P100447, DOI [10.1016/j.gsd.2020.100447, DOI 10.1016/J.GSD.2020.100447]
Ozioko OH, 2020, ENVIRON MONIT ASSESS, V192, DOI 10.1007/s10661-019-7951-9
Qiu HL, 2019, HUM ECOL RISK ASSESS, V25, P548, DOI 10.1080/10807039.2018.1562883
Radojevic M., 1999, Practical environmental analysis, DOI [10.1039/9781847551740, DOI 10.1039/9781847551740]
Sahoo M., 2016, J. Geosci. Environ. Protect, V4, P26, DOI [10.4236/gep.2016.42004, DOI 10.4236/GEP.2016.42004, 10.4236/gep.2016.42004,0]
Sahoo S, 2020, J GEOCHEM EXPLOR, V215, DOI 10.1016/j.gexplo.2020.106559
Sahoo SK., 2014, Environ. Monit. Assess, V186, P1557
Sharheen D. G., 1975, EPA-600/2-75-004
Sharma DA, 2017, J RADIOANAL NUCL CH, V313, P625, DOI 10.1007/s10967-017-5288-9
Sharma S, 2019, CHEMOSPHERE, V227, P179, DOI 10.1016/j.chemosphere.2019.04.009
Singh A., 2020, Environ. Monit. Assess, V192, P123
Singh AK, 2012, ENVIRON EARTH SCI, V65, P49, DOI 10.1007/s12665-011-1064-2
Singh AK, 2010, MINE WATER ENVIRON, V29, P248, DOI 10.1007/s10230-010-0108-2
Singh R, 2017, ENVIRON EARTH SCI, V76, DOI 10.1007/s12665-017-6899-8
Smith AH., 2006, Science, V314, P637
Srivastava SC., 1984, Palaeobofanisl, V32, P26
Stafford D. B., 1991, Civil engineering applications of remote sensing and geographic information systems
Sun K, 2021, INT J COAL SCI TECHN, V8, P88, DOI 10.1007/s40789-020-00366-5
Tate E., 2020, J. Environ. Manag, V271, P110992
Tiwari AK, 2016, B ENVIRON CONTAM TOX, V96, P508, DOI 10.1007/s00128-016-1750-6
U.S. EPA, 2011, EPA/600/R-09/052F
USEPA. (US Environmental Protection Agency), 1989, Health effect assessments summary tables (HEAST) and users Guide
Wang M., 2023, J. Hydrol, V629, P1288, DOI [10.1016/j.jhydrol.2023.129211, DOI 10.1016/J.JHYDROL.2023.129211]

Wei XX, 2024, ENVIRON EARTH SCI, V83, DOI 10.1007/s12665-024-11799-5
Wilbur SB, 2004, ENVIRON TOXICOL PHAR, V18, P223, DOI 10.1016/j.etap.2003.03.001
World Coal Association, 2013, Coal and & Infrastructure, M. World Coal Association
World Health Organization, 2021, World health statistics 2016 OP: monitoring health for the sustainable development goals (SDGs)
Zhang S., 2020, Environ. Sci. Technol, V54, P7896
Zhang SZ, 2019, ENVIRON FORENSICS, V20, P265, DOI 10.1080/15275922.2019.1629128
Zhou W., 2022, Environ. Sci. Poll. Res, V29, P1450, DOI [10.1007/s11356-021-16149-4, DOI 10.1007/S11356-021-16149-4]

Cited Reference Count: 81

Abstract: Metal toxicity in groundwater surrounding coal mines is a major concern because it may pose a significant risk to human health of the local populace. The present study investigated Al, As, Ba, Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb, Se, Sr, and Zn concentrations in the groundwater of Umaria coalfields during the post-monsoon season and pre-monsoon season. The study was carried out to investigate the spatial and temporal variation of the metals in the groundwater along with statistical source identification of the metals and assessment of human health risks due to intake of the metals through the groundwater. The metals of concern were Al, Fe and Mn, which exceeded the Indian drinking water quality standards in 26%, 38% and 12% of samples in the post-monsoon season and 38%, 40% and 14% of samples in the pre-monsoon season. A marked decrease in metal concentrations in the post-monsoon season was also observed, which may be attributed to the dilution effect associated with the heavy rainfall during the monsoon season. Principal component analysis used to identify contamination sources of the metals indicated geogenic attributes, coal mining activities and vehicular load as the sources of the metals in the groundwater. The human health risk assessment suggested considerable risk to the local populace using the groundwater for drinking purposes. The probable health risk, as suggested by the Hazard Index, depicted a higher risk to the child population as opposed to the adults. The Hazard Index for the child population was greater than unity in 60% and 76% of the samples in the post- and pre-monsoon seasons, respectively, suggesting a significant risk of metal exposure from groundwater intake. The study also suggested that ingestion was the primary exposure pathway and risk due to dermal exposure was trivial. The carcinogenic risk due to As and Cr were within the acceptable limits except for one location each for As and Cr. The present study suggests a potential non-carcinogenic human health risk due to groundwater intake; hence, the study area needs routine groundwater quality monitoring.

Accession Number: WOS:001465412700022

PubMed ID: 40199871

Language: English

Document Type: Article

Author Keywords: Groundwater; Principal component analysis; Human health risk assessment; Seasonal variation; Coal mining; GIS

KeyWords Plus: HEAVY-METALS; QUALITY ASSESSMENT; DRINKING-WATER; MINE WATER; CONTAMINATION; AREA; POLLUTION; GEOCHEMISTRY; DISTRICT; CADMIUM

Addresses: [Tiwari, Ashwani Kumar] Jawaharlal Nehru Univ, Sch Environm Sci, New Delhi 110067, India.
[Giri, Soma] Cent Univ South Bihar, Dept Environm Sci, Gaya 824236, India.
[Mahato, Mukesh Kumar] Univ Delhi, Lakshmibai Coll, Dept Environm Studies, Delhi 110052, India.
[Singh, Abhay Kumar] CSIR Cent Inst Min & Fuel Res, Barwa Rd, Dhanbad 826001, India.

Corresponding Address: Tiwari, AK (corresponding author), Jawaharlal Nehru Univ, Sch Environm Sci, New Delhi 110067, India.

E-mail Addresses: ashwaniktiwari@mail.jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi; Central University of South Bihar; University of Delhi; Council of Scientific & Industrial Research (CSIR) - India; CSIR - Central Institute of Mining & Fuel Research (CIMFR)

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Mahato, Dr Mukesh	L-8185-2017	

Publisher: NATURE PORTFOLIO

Publisher Address: HEIDELBERGER PLATZ 3, BERLIN, 14197, GERMANY

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Multidisciplinary Sciences

Research Areas: Science & Technology - Other Topics

IDS Number: 1HW9F

ISSN: 2045-2322

29-char Source Abbrev.: SCI REP-UK

ISO Source Abbrev.: Sci Rep

Source Item Page Count: 16

Funding:

Funding Agency	Grant Number
Science and Engineering Research Board (SERB), Department of Science and Technology, New Delhi, India	
Jawaharlal Nehru University, New Delhi	

The authors are grateful to the Vice Chancellor, Jawaharlal Nehru University, New Delhi and the Director of CSIR- Central Institute of Mining and Fuel Research, Dhanbad, for providing the research facilities. We thank Saurabh Kumar Singh and Suraj Kumar for their support during the sampling. One of the authors (Ashwani Kumar Tiwari) is grateful to the Science and Engineering Research Board (SERB), Department of Science and Technology, New Delhi, India, for funding support. We sincerely thank the editor and anonymous reviewers for their valuable suggestions for improving the manuscript.

Open Access: gold

Output Date: 2025-05-06

Record 26 of 33

Title: Engineering the decay time of Ti₃C₂T_x MXene by gold nanoparticle decoration

Author(s): Rajput, G (Rajput, Gaurav); Rawat, A (Rawat, Ankita); Chourasia, NK (Chourasia, Nitesh K.); Jalendra, G (Jalendra, Gaurav); Gupta, G (Gupta, Govind); Yadav, A (Yadav, Aditya); Kulriya, PK (Kulriya, P. K.)

Source: NANOTECHNOLOGY **Volume:** 36 **Issue:** 15 **Article Number:** 155702 **DOI:** 10.1088/1361-6528/adb4f9 **Published Date:** 2025 APR 14

Times Cited in Web of Science Core Collection: 2

Total Times Cited: 2

Usage Count (Last 180 days): 3

Usage Count (Since 2013): 3

Cited References: Albukhari SM, 2022, SUSTAINABILITY-BASEL, V14, DOI 10.3390/su14105996
Anasori B, 2017, NAT REV MATER, V2, DOI 10.1038/natrevmats.2016.98
Chen WY, 2022, ACS OMEGA, V7, P29195, DOI 10.1021/acsomega.2c03272
Chen X, 2021, CHEM ENG J, V426, DOI 10.1016/j.cej.2021.130818
Chourasia NK, 2023, MATER ADV, V4, P5948, DOI 10.1039/d3ma00631j
Dahiya A, 2022, PLASMONICS, V17, P2173, DOI 10.1007/s11468-022-01704-w
Das P, 2024, NANO-MICRO LETT, V16, DOI 10.1007/s40820-024-01349-w
Das P, 2023, MATER TODAY NANO, V24, DOI 10.1016/j.mtnano.2023.100428
Dhanasekar NN, 2015, J MICROBIOL BIOTECHN, V25, P1129, DOI 10.4014/jmb.1410.10036
Doan THP, 2021, RSC ADV, V11, P7492, DOI 10.1039/d0ra10879k
Earp B, 2020, MATER RES BULL, V131, DOI 10.1016/j.materresbull.2020.110969
Gao LF, 2020, CHEM MATER, V32, P1703, DOI 10.1021/acs.chemmater.9b04408
Han MK, 2021, ADV MATER, V33, DOI 10.1002/adma.202003225
Hu T, 2015, PHYS CHEM CHEM PHYS, V17, P9997, DOI 10.1039/c4cp05666c
Inman A, 2023, J MATER CHEM A, V11, P3514, DOI 10.1039/d2ta08995e
Iqbal A, 2021, NANO CONVERG, V8, DOI 10.1186/s40580-021-00259-6
Iqbal A, 2021, MATERIALS, V14, DOI 10.3390/ma14216292
Jorio A, 2010, PHYS STATUS SOLIDI B, V247, P2980, DOI 10.1002/pssb.201000247
Koh HJ, 2019, ACS SENSORS, V4, P1365, DOI 10.1021/acssensors.9b00310
Kumar R, 2018, NANOTECHNOLOGY, V29, DOI 10.1088/1361-6528/aade20
Kumawat A, 2023, INT J HYDROGEN ENERG, V48, P38101, DOI 10.1016/j.ijhydene.2022.11.280
Li YB, 2017, RSC ADV, V7, P24698, DOI 10.1039/c7ra03402d
Lim KRG, 2022, NAT SYNTH, V1, P601, DOI 10.1038/s44160-022-00104-6
Lorencova L, 2017, ELECTROCHIM ACTA, V235, P471, DOI 10.1016/j.electacta.2017.03.073
Luo YJ, 2025, J MATER CHEM A, V13, P1330, DOI 10.1039/d4ta06043a
Mohandoss M, 2017, RSC ADV, V7, P957, DOI 10.1039/c6ra24696f
Montazeri K, 2019, ADV MATER, V31, DOI 10.1002/adma.201903271
Naguib M, 2014, CHEM COMMUN, V50, P7420, DOI 10.1039/c4cc01646g
Naguib M, 2014, ADV MATER, V26, P992, DOI 10.1002/adma.201304138
Naguib M, 2011, ADV MATER, V23, P4248, DOI 10.1002/adma.201102306
Nan JX, 2021, SMALL, V17, DOI 10.1002/smll.201902085
Pacheco-Peña V, 2022, LIGHT-SCI APPL, V11, DOI 10.1038/s41377-022-00710-1
Rawat A, 2023, MATER ADV, V4, P6427, DOI 10.1039/d3ma00429e
Sarycheva A, 2020, CHEM MATER, V32, P3480, DOI 10.1021/acs.chemmater.0c00359
Satheeshkumar E, 2016, SCI REP-UK, V6, DOI 10.1038/srep32049
Sheng XX, 2021, J MATER SCI, V56, P4212, DOI 10.1007/s10853-020-05525-2
Tang MR, 2022, SYMMETRY-BASEL, V14, DOI 10.3390/sym14112232
Tyagi C, 2018, INT J HYDROGEN ENERG, V43, P13339, DOI 10.1016/j.ijhydene.2018.05.078
Wang T, 2023, FRONT MATER, V10, DOI 10.3389/fmats.2023.1214543
Wang WZ, 2024, MICROCHIM ACTA, V191, DOI 10.1007/s00604-024-06369-2
Wang WZ, 2024, CHEM ENG J, V482, DOI 10.1016/j.cej.2024.148693
Wen YY, 2019, RSC ADV, V9, P13424, DOI 10.1039/c9ra01330j
Xu H, 2020, ADV FUNCT MATER, V30, DOI 10.1002/adfm.202000907
Xu N, 2020, ADV SCI, V7, DOI 10.1002/advs.202002209
Xu ZH, 2023, J MATER SCI, V58, P4824, DOI 10.1007/s10853-023-08337-2
Xue Q, 2017, ADV MATER, V29, DOI 10.1002/adma.201604847
Yu KF, 2022, NANO RES, V15, P2862, DOI 10.1007/s12274-021-3878-x
Zhang HX, 2020, ANAL CHEM, V92, P5546, DOI 10.1021/acs.analchem.0c00469
Zhang LX, 2019, CERAM INT, V45, P11468, DOI 10.1016/j.ceramint.2019.03.014
Zheng ZX, 2021, J ADV CERAM, V10, P1061, DOI 10.1007/s40145-021-0491-0

Cited Reference Count: 50

Abstract: MXenes, specifically Ti3C2Tx having peculiar structural and electronic characteristics display not only high surface area, and excellent thermal and electrical conductivity but also have the potential for functionalization. The primary focus of this research is to control the decay time of gold nanoparticle (NP) (Au NP) decorated multilayer Ti3C2Tx MXene (Au-Ti3C2Tx) synthesized by a simple two-step selective etching technique. Incorporation of Au NPs in the multilayer Ti3C2Tx MXene leads to lattice expansion, micro-strain reduction, and crystallinity improvement, as confirmed by x-ray diffraction analysis. Observation of a well-developed G band in the Au-Ti3C2Tx MXene across different Au concentrations by Raman spectroscopy investigations suggests the accumulation of graphitic carbon on the MXene surface which has greatly improved the charge transfer characteristic of the carbide layer. Furthermore, the Au-Ti3C2Tx MXene exhibits promising optical properties for different concentrations of gold. The time-resolved photoluminescence spectroscopy studies displayed a reduction in the average decay time (tau av) to similar to 30% with increasing gold concentration from 100 to 150 mu l in Au NPs solution which is explained based on Au NPs induced surface plasmon resonance. The decoration of Au NPs facilitates the accumulation of carbon on the surface of MXene, resulting in enhanced crystallinity, reduced micro-strain, and decreased decay time. By engineering decay time through the decoration of noble metal NPs onto MXene, it becomes possible to fabricate highly efficient photodetectors and imaging devices. This is especially advantageous in applications where shorter decay times are desired.

Accession Number: WOS:001434655100001

PubMed ID: 39938121

Language: English

Document Type: Article

Author Keywords: MXene; gold nanoparticles; graphitic carbon; photoluminescence

KeyWords Plus: GRAPHENE; REDUCTION

Addresses: [Rajput, Gaurav; Rawat, Ankita; Chourasia, Nitesh K.; Kulriya, P. K.] Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.
[Chourasia, Nitesh K.] Pandit Deendayal Energy Univ, Sch Energy Technol, Dept Phys, Gandhinagar 382426, Gujarat, India.
[Jalendra, Gaurav] Univ Delhi, Dept Phys & Astrophys, New Delhi 110007, India.
[Gupta, Govind; Yadav, Aditya] CSIR, Natl Phys Lab, New Delhi, India.

Corresponding Address: Kulriya, PK (corresponding author), Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.

E-mail Addresses: pkkulriya@mail.jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi; Pandit Deendayal Energy University; University of Delhi; Council of Scientific & Industrial Research (CSIR) - India; CSIR - National Physical Laboratory (NPL)

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Chourasia, Nitesh K.	GOH-0010-2022	
Kulriya, Pawan	AAC-6687-2021	
RAJPUT, GAURAV	AAW-4292-2021	
Kulriya, Prof. Pawan Kumar	H-3391-2011	0000-0001-5563-7584

Publisher: IOP Publishing Ltd

Publisher Address: TEMPLE CIRCUS, TEMPLE WAY, BRISTOL BS1 6BE, ENGLAND

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied

Research Areas: Science & Technology - Other Topics; Materials Science; Physics
IDS Number: Y8O8R
ISSN: 0957-4484
eISSN: 1361-6528
29-char Source Abbrev.: NANOTECHNOLOGY
ISO Source Abbrev.: Nanotechnology
Source Item Page Count: 10
Funding:

Funding Agency	Grant Number
CSIR-UGC NET	09/0263 (13833)/2022-EMR-I
CSIR	09/263(1233)/2020-EMR-I
	PDF/2021/001490

Nitesh K Chourasia acknowledges the 'Science and Engineering Research Board' for the National Post-Doctoral Fellowship (PDF/2021/001490). Gaurav Rajput thanks CSIR-UGC NET with Reference No. 09/0263(13833)/2022-EMR-I for providing a Junior Research Fellowship (JRF) and Ankita Rawat is thankful to CSIR for awarding a Junior Research Fellowship with Reference No. 09/263(1233)/2020-EMR-I. The authors also thank AIRF, JNU New Delhi for providing synthesis and characterization tools including XRD, PL, SEM, HRTEM, and Raman spectrometer.

Output Date: 2025-05-06

Record 27 of 33

Title: Crystal structure, magnetic, and magnetostructural correlations in double perovskite antiferromagnets Sr2NiMo1-xWxO6 (0 x 1)

Author(s): Patel, RK (Patel, R. K.); Chikara, KS (Chikara, K. S.); Hossain, SM (Hossain, S. M.); Majumder, M (Majumder, M.); Nath, C (Nath, Chandrani); Yusuf, SM (Yusuf, S. M.); Saravanan, MP (Saravanan, M. P.); Bera, AK (Bera, A. K.); Pramanik, AK (Pramanik, A. K.)

Source: PHYSICAL REVIEW MATERIALS **Volume:** 9 **Issue:** 4 **Article Number:** 044406 **DOI:** 10.1103/PhysRevMaterials.9.044406 **Published Date:** 2025 APR 10

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Anand VK, 2012, PHYS REV B, V85, DOI 10.1103/PhysRevB.85.014418
aps, About us, DOI [10.1103/PhysRevMaterials.9.044406, DOI 10.1103/PHYSREVMATERIALS.9.044406]
Baruwati B, 2007, J APPL PHYS, V101, DOI 10.1063/1.2404772
Bera AK, 2022, PHYS REV B, V105, DOI 10.1103/PhysRevB.105.014410
Bera AK, 2017, PHYS REV B, V95, DOI 10.1103/PhysRevB.95.094424
Bera AK, 2016, PHYS REV B, V93, DOI 10.1103/PhysRevB.93.184409
Bertaut E.F., 1971, Le Journal de Physique Col[loques, V32, pC1
BERTAUT EF, 1968, ACTA CRYSTALL A-CRYS, VA 24, P217, DOI 10.1107/S0567739468000306
BERTAUT EF, 1962, J APPL PHYS, V33, P1138, DOI 10.1063/1.1728635

BINDER K, 1986, REV MOD PHYS, V58, P801, DOI 10.1103/RevModPhys.58.801
Bradley C., 1972, The Mathematical Theory of Symmetry in Solids
Chillal S, 2013, PHYS REV B, V87, DOI 10.1103/PhysRevB.87.220403
Chin CM, 2017, J SOLID STATE CHEM, V251, P224, DOI 10.1016/j.jssc.2017.04.023
Das H, 2008, APPL PHYS LETT, V92, DOI 10.1063/1.2936304
Dutta A., 2022, Phys. Rev. B, V106
Eriksson AK, 2006, MATER RES BULL, V41, P144, DOI 10.1016/j.materresbull.2005.07.028
Gondh S, 2021, PHYS REV B, V104, DOI 10.1103/PhysRevB.104.014401
GONZALEZELIPE AR, 1992, J PHYS CHEM-US, V96, P3080, DOI 10.1021/j100186a056
Gopal E. S. R., 1966, Specific Heats at Low Temperatures, V63
Hwang J, 2012, PHYS REV LETT, V109, DOI 10.1103/PhysRevLett.109.257205
Idris AM, 2020, ACS APPL MATER INTER, V12, P25938, DOI 10.1021/acsami.0c05576
ill.eu, FullProf Suite
Izyumov Yu. A., 1991, Neutron Diffraction of Magnetic Materials, DOI DOI 10.1063/1.3677684
Kharkwal KC, 2020, PHYS REV B, V102, DOI 10.1103/PhysRevB.102.174401
Kim GT, 1999, APPL SURF SCI, V152, P35, DOI 10.1016/S0169-4332(99)00293-7
Kitaoka Y, 1998, J PHYS SOC JPN, V67, P3703, DOI 10.1143/JPSJ.67.3703
Kobayashi KI, 1999, PHYS REV B, V59, P11159, DOI 10.1103/PhysRevB.59.11159
Kobayashi KL, 1998, NATURE, V395, P677, DOI 10.1038/27167
Krizan JW, 2015, PHYS REV B, V92, DOI 10.1103/PhysRevB.92.014406
Kumar R, 2018, ADV MATER INTERFACES, V5, DOI 10.1002/admi.201800071
Lee MC, 2018, PHYS REV B, V97, DOI 10.1103/PhysRevB.97.125123
Lin BN, 2004, J MAGN MAGN MATER, V272, P479, DOI 10.1016/j.jmmm.2003.11.192
LONGO J, 1961, J AM CHEM SOC, V83, P2816, DOI 10.1021/ja01474a007
Ma Z, 2018, PHYS REV LETT, V120, DOI 10.1103/PhysRevLett.120.087201
Maiti K., 2014, Sci. Lett. J., V3, P55
Maniv E, 2021, NAT PHYS, V17, P525, DOI 10.1038/s41567-020-01123-w
Martínez-Lope MJ, 2003, EUR J INORG CHEM, P2839, DOI 10.1002/ejic.200300063
Miiller W, 2012, J PHYS-CONDENS MAT, V24, DOI 10.1088/0953-8984/24/20/206004
Mustonen O, 2018, NAT COMMUN, V9, DOI 10.1038/s41467-018-03435-1
NOMURA S, 1966, J PHYS SOC JPN, V21, P1068, DOI 10.1143/JPSJ.21.1068
Paranjpe S. K., 2002, Neutron News, V13, P36
PARANJPE SK, 1989, PRAMANA, V32, P793, DOI 10.1007/BF02845999
Peck MA, 2012, CHEM MATER, V24, P4483, DOI 10.1021/cm300739y
Pirker L, 2020, NANOSCALE, V12, P15102, DOI 10.1039/d0nr02014a
Pramanik AK, 2010, PHYS REV B, V82, DOI 10.1103/PhysRevB.82.094402
RODRIGUEZCARVAJAL J, 1993, PHYSICA B, V192, P55, DOI 10.1016/0921-4526(93)90108-I
Rogado NS, 2005, ADV MATER, V17, P2225, DOI 10.1002/adma.200500737
Saha R, 2017, PHYS REV B, V96, DOI 10.1103/PhysRevB.96.214439
Sarma DD, 2000, PHYS REV LETT, V85, P2549, DOI 10.1103/PhysRevLett.85.2549
Sena RP, 2016, J SOLID STATE CHEM, V243, P304, DOI 10.1016/j.jssc.2016.09.004
Serrate D, 2007, J PHYS-CONDENS MAT, V19, DOI 10.1088/0953-8984/19/43/436226
Shimakawa Y, 2011, MATERIALS, V4, P153, DOI 10.3390/ma4010153
SLEIGHT AW, 1972, J PHYS CHEM SOLIDS, V33, P679, DOI 10.1016/0022-3697(72)90076-5
SOULETIE J, 1985, PHYS REV B, V32, P516, DOI 10.1103/PhysRevB.32.516
Su C, 2023, PHYS REV B, V108, DOI 10.1103/PhysRevB.108.054416
THOLENCE JL, 1984, PHYSICA B & C, V126, P157, DOI 10.1016/0378-4363(84)90159-1
Vasala S, 2012, CHEM MATER, V24, P2764, DOI 10.1021/cm301154n
Vasala S, 2014, PHYS REV B, V89, DOI 10.1103/PhysRevB.89.134419
Walker HC, 2016, PHYS REV B, V94, DOI 10.1103/PhysRevB.94.064411
WONG P, 1985, PHYS REV LETT, V55, P2043, DOI 10.1103/PhysRevLett.55.2043

YESHURUN Y, 1985, J PHYS C SOLID STATE, V18, pL483, DOI 10.1088/0022-3719/18/17/001
YOKOYAMA H, 1970, J PHYS SOC JPN, V28, P1197, DOI 10.1143/JPSJ.28.1197
Zhu M, 2014, PHYS REV LETT, V113, DOI 10.1103/PhysRevLett.113.076406

Cited Reference Count: 63

Abstract: In this paper, we investigate the evolution of crystal structure, magnetic, thermodynamic, and spin correlation behaviors in a series of double perovskite materials Sr2NiMo1-xWxO6 (0 x 1) using magnetic susceptibility (dc and ac), specific heat, and neutron diffraction measurements. The magnetic Ni2+ (3d8, spin-1) and Mo6+/W6+ (4d0/5d0) ions are arranged alternatively in the crystal structure where the (super)exchange interactions between Ni2+ follow Ni-O-Mo/W-O-Ni pathways. Our magnetization measurements indicate an antiferromagnetic state in the parent compound (x = 0.0) with ordering temperature TN similar to 80 K, is suppressed with W substitution, showing TN similar to 60 K for the other end compound (x = 1.0). With W substitution, further, an additional peak accompanied by a bifurcation between zero-field-cooled and field-cooled moments is observed at low temperature in magnetization data, which is due to a coexisting glassy phase, as identified using ac susceptibility in the representative x = 0.5 sample. The specific heat measurements show an anomaly across TN while its magnetic component follows a Cm proportional to T3 behavior at low temperature. Our detailed neutron diffraction measurements show an ordered antiferromagnetic ground state with magnetic propagation vector k = (0.5, 0, 0.5), where the magnetic moment has been detected close to the expected value of similar to 2 mu B/Ni2+ across the series. While the W substitution does not alter both lattice and magnetic structures in this series, it lowers the TN and induces sizable magnetostructural coupling across the ordering temperature. Given that W and Mo have similar ionic radii, charge states, and (non)magnetic behaviors but differ in their d character, the present substitution of W has a remarkable effect on the ground state magnetic properties, which calls for an investigation using microscopic probes and theoretical calculations.

Accession Number: WOS:001469035200001

Language: English

Document Type: Article

KeyWords Plus: SPIN-GLASS; ROOM-TEMPERATURE; MAGNETORESISTANCE; CHEMISTRY; STATE; XPS

Addresses: [Patel, R. K.; Pramanik, A. K.] Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.
[Chikara, K. S.; Yusuf, S. M.; Bera, A. K.] Bhabha Atom Res Ctr, Solid State Phys Div, Mumbai 400085, India.
[Chikara, K. S.; Yusuf, S. M.; Bera, A. K.] Homi Bhabha Natl Inst, Mumbai 400094, India.
[Hossain, S. M.; Majumder, M.] Shiv Nadar Inst Eminence, Dept Phys, Gautam Buddha Nagar 201314, Uttar Pradesh, India.
[Nath, Chandrani] Jawaharlal Nehru Univ, Special Ctr Nanosci, New Delhi 110067, India.
[Saravanan, M. P.] UGC DAE Consortium Sci Res, Indore 452001, India.

Corresponding Address: Pramanik, AK (corresponding author), Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.
Bera, AK (corresponding author), Bhabha Atom Res Ctr, Solid State Phys Div, Mumbai 400085, India.
Bera, AK (corresponding author), Homi Bhabha Natl Inst, Mumbai 400094, India.

E-mail Addresses: akbera@barc.gov.in; akpramanik@mail.jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi; Bhabha Atomic Research Center (BARC); Homi Bhabha National Institute; Special Centre for Nanoscience, Jawaharlal Nehru University; Jawaharlal Nehru University, New Delhi; UGC DAE Consortium for Scientific Research

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Bera, Anup	K-6477-2015	
Pramanik, Ashim	C-9423-2012	

Nath, Chandrani	D-8133-2014	
Patel, Rajkumar	CAF-5473-2022	

Publisher: AMER PHYSICAL SOC

Publisher Address: ONE PHYSICS ELLIPSE, COLLEGE PK, MD 20740-3844 USA

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Materials Science, Multidisciplinary

Research Areas: Materials Science

IDS Number: 1NF6U

ISSN: 2475-9953

29-char Source Abbrev.: PHYS REV MATER

ISO Source Abbrev.: Phys. Rev. Mater.

Source Item Page Count: 14

Funding:

Funding Agency	Grant Number
UGC-DAE CSR, Mumbai	CRS/2021-22 /03/576
UGC, India	
SERB, Department of Science and Technology, Government of India under the J. C. Bose fellowship program	JCB/2023/000014

We acknowledge UGC-DAE Consortium for Scientific Research, Indore for the ac susceptibility and specific heat measurements. We are thankful to Dr. R. Rawat and K. Kumar for magnetic measurements. We acknowledge Shiv Nadar Institution of Eminence, Delhi-NCR and Saptarshi, IIT Jammu, India for magnetic and XPS measurements, respectively. We thank UGC-DAE CSR, Mumbai for the financial support under the Collaborative Research Scheme (No. CRS/2021-22/03/576) . R.K.P. acknowledges UGC, India for financial support through fellowship. S.M.Y. acknowledges financial assistance from SERB, Department of Science and Technology, Government of India under the J. C. Bose fellowship program (Ref. No. JCB/2023 /000014) .

Output Date: 2025-05-06

Record 28 of 33

Title: Multi-omics analysis of non-pungent (Capsicum annuum) and fiery hot ghost chili (C. chinense) provides insights into proteins involved in fruit development and metabolites biosynthesis

Author(s): Momo, J (Momo, John); Islam, K (Islam, Khushbu); Biswas, S (Biswas, Souparna); Rawoof, A (Rawoof, Abdul); Ahmad, I (Ahmad, Ilyas); Ramchiary, N (Ramchiary, Nirala)

Source: PHYSIOLOGY AND MOLECULAR BIOLOGY OF PLANTS **Volume:** 31 **Issue:** 3 **Pages:** 453-475 **DOI:** 10.1007/s12298-025-01581-7 **Early Access Date:** APR 2025 **Published Date:** 2025 MAR

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Ahmad I, 2023, PLANT PHYSIOL BIOCH, V196, P415, DOI 10.1016/j.plaphy.2023.01.060
Ahmad I, 2021, ENVIRON EXP BOT, V190, DOI 10.1016/j.envexpbot.2021.104597
Ahmad I, 2021, J FOOD COMPOS ANAL, V101, DOI 10.1016/j.jfca.2021.103977
Cigliano RA, 2022, HORTIC RES-ENGLAND, V9, DOI 10.1093/hr/uhab042
Aizat WM, 2013, FUNCT PLANT BIOL, V40, P1115, DOI 10.1071/FP12330
Ali E, 2022, ACTA PHYSIOL PLANT, V44, DOI 10.1007/s11738-021-03350-x
Antonio AS, 2018, RSC ADV, V8, P25767, DOI 10.1039/c8ra02067a
Aza-González C, 2011, PLANT CELL REP, V30, P695, DOI 10.1007/s00299-010-0968-8
Barry CS, 2000, PLANT PHYSIOL, V123, P979, DOI 10.1104/pp.123.3.979
Bashir T, 2023, MOL BIOL REP, V50, P8729, DOI 10.1007/s11033-023-08728-3
Brewis IA, 2010, ADV PROTEIN CHEM STR, V80, P1, DOI [10.1016/S1876-1623(10)80001-X, 10.1016/B978-0-12-381264-3.00001-1]
Camejo D, 2015, PROTEOMICS, V15, P2634, DOI 10.1002/pmic.201400370
Cao YP, 2020, BIOLOGY-BASEL, V9, DOI 10.3390/biology9030061
Ceballos-Laita L, 2020, INT J MOL SCI, V21, DOI 10.3390/ijms21228863
Cervantes-Hernández F, 2022, FRONT PLANT SCI, V13, DOI 10.3389/fpls.2022.893055
Chaturvedi P, 2015, J PROTEOME RES, V14, P4463, DOI 10.1021/pr501240n
Chhapekar S S., 2018, Biotic and Abiotic Stress Tolerance in Plants, P279, DOI DOI 10.1007/978-981-10-9029-5_11
Chhapekar SS, 2021, SCI HORTIC-AMSTERDAM, V281, DOI 10.1016/j.scienta.2021.109952
Chhapekar SS, 2020, IND CROP PROD, V154, DOI 10.1016/j.indcrop.2020.112687
Czerednik A, 2012, J EXP BOT, V63, P2605, DOI 10.1093/jxb/err451
Dang QY, 2021, HORTIC RES-ENGLAND, V8, DOI 10.1038/s41438-021-00694-w
Deng H, 2018, PLANT J, V95, P648, DOI 10.1111/tpj.13976
Deng YX, 2017, CRIT REV PLANT SCI, V36, P257, DOI 10.1080/07352689.2017.1402852
Deracinois B, 2013, PROTEOMES, V1, DOI 10.3390/proteomes1030180
Duan CQ, 2003, PHYSIOL PLANTARUM, V118, P105, DOI 10.1034/j.1399-3054.2003.00103.x
Dubey M, 2019, GENOMICS, V111, P1913, DOI 10.1016/j.ygeno.2019.01.002
Dyla M, 2020, ANNU REV BIOCHEM, V89, P583, DOI 10.1146/annurev-biochem-010611-112801
Fan FF, 2020, BMC PLANT BIOL, V20, DOI 10.1186/s12870-020-02476-3
Fu JL, 2024, J INTEGR AGR, V23, P2633, DOI 10.1016/j.jia.2024.03.068
Gani U, 2021, PLANT CELL REP, V40, P1, DOI 10.1007/s00299-020-02599-9
Garrido-Bigotes A, 2018, PLOS ONE, V13, DOI 10.1371/journal.pone.0197118
Gonzalez-Gordo S, 2022, FRONT PLANT SCI, V13, DOI 10.3389/fpls.2022.893376
Guo XK, 2018, PLANT SCI, V272, P131, DOI 10.1016/j.plantsci.2018.04.016
Hao YW, 2015, PLOS GENET, V11, DOI 10.1371/journal.pgen.1005649
Heng Z, 2023, FOOD RES INT, V169, DOI 10.1016/j.foodres.2023.112856
Hichri I, 2010, MOL PLANT, V3, P509, DOI 10.1093/mp/ssp118
Islam K, 2023, J AGR FOOD CHEM, V71, P9213, DOI 10.1021/acs.jafc.3c01901
Islam K, 2021, FRONT PLANT SCI, V12, DOI 10.3389/fpls.2021.721265
Jaiswal V., 2021, ADV PLANT BREEDING S, P59, DOI [DOI 10.1007/978-3-030-66961-4_2, 10.1007/978-3-030-66961-42]
Jaiswal V, 2022, ISCIENCE, V25, DOI 10.1016/j.isci.2022.105318
Jaiswal V, 2020, GENOMICS, V112, P1554, DOI 10.1016/j.ygeno.2019.09.005
Jin J, 2024, INT J MOL SCI, V25, DOI 10.3390/ijms25052831
Kang SI, 2017, MOLECULES, V22, DOI 10.3390/molecules22122180
Kilambi HV, 2016, FRONT PLANT SCI, V7, DOI 10.3389/fpls.2016.00969
Kim Seungill, 2014, Nat Genet, V46, P270, DOI 10.1038/ng.2877
Kumar A, 2021, ANN PLANT REV ONLINE, V4, P295, DOI 10.1002/9781119312994.apr0782
Lee BJ, 2006, BIOCHEM BIOPH RES CO, V351, P405, DOI 10.1016/j.bbrc.2006.10.071

Li BJ, 2024, HORTIC RES-ENGLAND, V11, DOI 10.1093/hr/uhae209
Li CX, 2023, SCI HORTIC-AMSTERDAM, V314, DOI 10.1016/j.scienta.2023.111950
Li MY, 2020, BIOCHEM GENET, V58, P40, DOI 10.1007/s10528-019-09916-2
Li XM, 2022, HORTIC RES-ENGLAND, V9, DOI 10.1093/hr/uhac013
Liang B, 2021, J EXP BOT, V72, P2403, DOI 10.1093/jxb/eraa593
Lisec J, 2006, NAT PROTOC, V1, P387, DOI 10.1038/nprot.2006.59
Liu F, 2023, NAT COMMUN, V14, DOI 10.1038/s41467-023-41251-4
Liu GS, 2022, CELLS-BASEL, V11, DOI 10.3390/cells11030525
Liu PP, 2023, HORTIC RES-ENGLAND, V10, DOI 10.1093/hr/uhad170
Liu ZB, 2020, INT J MOL SCI, V21, DOI 10.3390/ijms21061962
Liu ZB, 2019, J PROTEOME RES, V18, P982, DOI 10.1021/acs.jproteome.8b00673
Luo CK, 2024, PROTOPLASMA, V261, P397, DOI 10.1007/s00709-023-01917-8
Mehta RA, 1996, PLANT PHYSIOL, V110, P875, DOI 10.1104/pp.110.3.875
Ming YC, 2023, FRONT PLANT SCI, V14, DOI 10.3389/fpls.2023.1269090
Momo J, 2023, J AGR FOOD CHEM, V71, P65, DOI 10.1021/acs.jafc.2c06564
Momo John, 2022, J Proteomics, V261, P104578, DOI 10.1016/j.jprot.2022.104578
Palumbo M, 2022, FOODS, V11, DOI 10.3390/foods11233925
Pereira L, 2024, PLANT PHYSIOL, V194, P2185, DOI 10.1093/plphys/kiad673
Pott DM, 2019, FRONT PLANT SCI, V10, DOI 10.3389/fpls.2019.00835
Pulido P, 2018, NEW PHYTOL, V217, P480, DOI 10.1111/nph.14827
Qi XL, 2022, CELLS-BASEL, V11, DOI 10.3390/cells11071170
Rawoof A, 2022, FUNCT INTEGR GENOMIC, V22, P1189, DOI 10.1007/s10142-022-00902-3
Rawoof A, 2020, GENOMICS, V112, P3342, DOI 10.1016/j.ygeno.2020.04.031
Sánchez-Bel P, 2012, J PROTEOMICS, V75, P5463, DOI 10.1016/j.jprot.2012.06.029
Sarpras M, 2019, LWT-FOOD SCI TECHNOL, V105, P363, DOI 10.1016/j.lwt.2019.02.020
Sattler SE, 2003, PLANT PHYSIOL, V132, P2184, DOI 10.1104/pp.103.024257
Shi HY, 2014, PLOS ONE, V9, DOI 10.1371/journal.pone.0089926
Shi Y, 2021, HORTIC RES-ENGLAND, V8, DOI 10.1038/s41438-021-00696-8
Singh V., 2023, PLANT TRANSCRIPTION, P159, DOI [10.1016/B978-0-323-90613-5.00011-X, DOI 10.1016/B978-0-323-90613-5.00011-X]
Song ZY, 2022, PLANT PHYSIOL, V188, P1312, DOI 10.1093/plphys/kiab532
Stewart C, 2005, PLANT J, V42, P675, DOI 10.1111/j.1365-313X.2005.02410.x
Szymanski J, 2017, PLANT J, V90, P396, DOI 10.1111/tpj.13490
Tian SJ, 2021, BMC PLANT BIOL, V21, DOI 10.1186/s12870-021-02988-6
Tzin Vered, 2010, Arabidopsis Book, V8, pe0132, DOI 10.1199/tab.0132
Usharani TR., 2022, OMICS HORTICULTURAL, P303, DOI [10.1016/B978-0-323-89905-5.00022-7, DOI 10.1016/B978-0-323-89905-5.00022-7]
Van Overtveldt S, 2015, BIOTECHNOL ADV, V33, P1814, DOI 10.1016/j.biotechadv.2015.10.010
Vega Karina, 2012, Int J Microbiol, V2012, P920459, DOI 10.1155/2012/920459
Wang J, 2019, INT J MOL SCI, V20, DOI 10.3390/ijms20205042
Wang YY, 2023, J EXP BOT, V74, P214, DOI 10.1093/jxb/erac400
Wu MB, 2020, PLANT PHYSIOL, V183, P854, DOI 10.1104/pp.20.00156
Xiang Y, 2024, SCI HORTIC-AMSTERDAM, V323, DOI 10.1016/j.scienta.2023.112502
Xiao L, 2022, J ADV RES, V42, P177, DOI 10.1016/j.jare.2022.02.013
Yang YW, 2010, J EXP BOT, V61, P697, DOI 10.1093/jxb/erp332
Zhai YL, 2022, FRONT PLANT SCI, V13, DOI 10.3389/fpls.2022.979348
Zhang BP, 2022, FRONT PLANT SCI, V12, DOI 10.3389/fpls.2021.783496
Zhang JW, 2022, FRONT PLANT SCI, V13, DOI 10.3389/fpls.2022.819630
Zhang LN, 2019, BMC GENOMICS, V20, DOI 10.1186/s12864-019-6261-5
Zhang YZ, 2024, PLANT COMMUN, V5, DOI 10.1016/j.xplc.2024.100847
Zhou Y, 2024, BMC PLANT BIOL, V24, DOI 10.1186/s12870-024-04888-x

Cited Reference Count: 96

Abstract: Global omics offer extensive insights into the diversity of essential biomolecules across various plant developmental stages. Despite advancements in high-throughput technologies, the integrated analysis of global omics such as proteomics, transcriptomics, and metabolomics, is yet to be fully explored in fruits of Capsicum species. In this study, we used an integrated omics approach to identify proteins involved in fruit development, and metabolite biosynthesis in the placenta and pericarp tissues of two contrasting genotypes belonging to ghost chili (Capsicum chinense) and C. annuum. The mass spectrometry analysis identified a total of 4,473 and 2,012 proteins from the pericarp and placenta tissues of Capsicum fruits. We observed expression of developmental stage-specific proteins, such as kinases, transferases, ion transporters, F-box proteins, and transcription factors that were enriched in the biosynthesis of primary and secondary metabolites. The abundance of these proteins corresponded with RNAseq data. Key proteins related to capsaicinoids biosynthesis, such as Acyltransferase 3, 3-oxoacyl-[acyl-carrier protein], 4-coumaroyl co-A ligase, and 3-ketoacyl-coA synthase 3, were identified in placenta of highly pungent ghost chili, along with J-domain proteins and transcription factors such as MYB101, MYB 14-like, bHLH112, NAC, and Cyt p450 CYP82D47, suggesting their role in capsaicinoids and secondary metabolites biosynthesis. Further, we observed a correlation of the expression of genes and proteins with the abundance of primary and secondary metabolites, such as carbohydrates, alcohols, fatty acids, phenolics, glycerides, polyamines, and amino acids. Our findings provide a novel multiomics resources for future functional studies, with potential applications in breeding programs.

Accession Number: WOS:001462542100001

PubMed ID: 40256276

Language: English

Document Type: Article

Author Keywords: Capsicum; Fruit development; Fruit ripening; Metabolomics; Proteomics; Transcriptomics

KeyWords Plus: TOMATO; IDENTIFICATION; GENE; METHYLATION; MECHANISMS; EXPRESSION

Addresses: [Momo, John; Islam, Khushbu; Biswas, Souparna; Ramchiary, Nirala] Jawaharlal Nehru Univ, Sch Life Sci, New Delhi 110067, India.
[Rawoof, Abdul] Univ North Texas, Dept Biol Sci, Denton, TX USA.
[Rawoof, Abdul] Univ North Texas, Biodiscovery Inst, Denton, TX USA.
[Ahmad, Ilyas] Univ Wyoming, Coll Agr & Nat Resources, Dept Plant Sci, Laramie, WY 82072 USA.

Corresponding Address: Ramchiary, N (corresponding author), Jawaharlal Nehru Univ, Sch Life Sci, New Delhi 110067, India.

E-mail Addresses: nramchiary@jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi; University of North Texas System; University of North Texas Denton; University of North Texas System; University of North Texas Denton; University of Wyoming

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Islam, Khushbu	MBV-0257-2025	
Ramchiary, Nirala	AAM-7695-2021	

Publisher: SPRINGER

Publisher Address: ONE NEW YORK PLAZA, SUITE 4600, NEW YORK, NY, UNITED STATES

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Plant Sciences

Research Areas: Plant Sciences
IDS Number: 1NR3T
ISSN: 0971-5894
eISSN: 0974-0430
29-char Source Abbrev.: PHYSIOL MOL BIOL PLA
ISO Source Abbrev.: Physiol. Mol. Biol. Plants
Source Item Page Count: 23
Funding:

Funding Agency	Grant Number
DST-SERB	EEQ/2022/000994
Anusandhan National Research Foundation (SERB)	Delhi-110067
Ministry of Science and Technology	BT/INF /22/SP45382/2022
Department of Biotechnology, Ministry of Science and Technology, DBT BUILDER C2 MOD	
University Grants Commission (UGC)	
Council of Scientific and Industrial Research (CSIR)	

This work was supported by Anusandhan National Research Foundation (SERB) Project File No: EEQ/2022 /000994, granted by, Ministry of Science and Technology, to Prof. Nirala Ramchiary, School of Life Sciences, Jawaharlal Nehru University, Delhi-110067, India; and partially supported by the Department of Biotechnology, Ministry of Science and Technology, DBT BUILDER C2 MOD [Grant no: BT/INF /22/SP45382/2022] granted to the School of Life Science, Jawaharlal Nehru University, New Delhi-110067, India. We also acknowledge financial support provided by University Grants Commission (UGC) and Council of Scientific and Industrial Research (CSIR) in the form of Junior Research Fellowship (JRF) and Senior Research Fellowship (SRF) to John Momo (JM), Khushbu Islam (KI), Souparna Biswas (SB), Vishesh (V), Ilyas Ahmad (IA), and Abdul Rawoof (AR) for a tenure of 5 years of research.

Output Date: 2025-05-06

Record 29 of 33

Title: Synergistic heterojunction effects in Ag₃PO₄/SnO₂ nanocomposites: a photocatalytic study on isoproturon degradation

Author(s): Ram, R (Ram, Rishi); Kumar, S (Kumar, Sanjeev); Gupta, A (Gupta, Akanksha); Kumar, R (Kumar, Ravinder); Dubey, KK (Dubey, Kashyap Kumar); Kumar, V (Kumar, Vinod)

Source: FRONTIERS IN BIOENGINEERING AND BIOTECHNOLOGY **Volume:** 13 **Article Number:** 1458965 **DOI:** 10.3389/fbioe.2025.1458965 **Published Date:** 2025 APR 4

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Ahmed S, 2021, J ENVIRON CHEM ENG, V9, DOI 10.1016/j.jece.2021.106643
Appleman TD, 2013, J HAZARD MATER, V260, P740, DOI 10.1016/j.jhazmat.2013.06.033
Boucheloukh H, 2017, PHOTOCH PHOTOBIO SCI, V16, P759, DOI 10.1039/c6pp00441e

Chai B, 2014, IND ENG CHEM RES, V53, P8744, DOI 10.1021/ie4041065
Chen XJ, 2015, J ALLOY COMPD, V649, P910, DOI 10.1016/j.jallcom.2015.07.174
Cychosz KA, 2017, CHEM SOC REV, V46, P389, DOI 10.1039/c6cs00391e
De A., 2014, SpringerBriefs Mol. Sci, P99, DOI [10.1007/978-81-322-1689-62, DOI 10.1007/978-81-322-1689-62]
Dhenadhayalan N, 2022, MATER TODAY CHEM, V24, DOI 10.1016/j.mtchem.2022.100913
EL-Saeid MH, 2021, WATER-SUI, V13, DOI 10.3390/w13213080
Galichet F, 2002, PEST MANAG SCI, V58, P707, DOI 10.1002/ps.505
Hamilton DJ, 2003, PURE APPL CHEM, V75, P1123, DOI 10.1351/pac200375081123
Kamboj N, 2022, ACS NANO, DOI 10.1021/acsnano.2c07008
Kamiuchi N, 2010, CATAL TODAY, V157, P415, DOI 10.1016/j.cattod.2010.02.063
Khan K, 2023, SUSTAIN ENVIRON RES, V33, DOI 10.1186/s42834-023-00184-9
Kumar KV, 2008, CATAL COMMUN, V9, P82, DOI 10.1016/j.catcom.2007.05.019
Kumar S, 2022, ENVIRON SCI POLLUT R, V29, P47448, DOI 10.1007/s11356-022-18946-0
Kumar S, 2013, J MATER CHEM A, V1, P5333, DOI 10.1039/c3ta00186e
Kumar V, 2019, CHEMISTRYSELECT, V4, P3722, DOI 10.1002/slct.201900032
Kumar V, 2011, INORG CHEM, V50, P5637, DOI 10.1021/ic2003436
Li DS, 2019, ACS SUSTAIN CHEM ENG, V7, P8466, DOI 10.1021/acssuschemeng.9b00252
Li F, 2019, NANO, V14, DOI 10.1142/S1793292019500929
Li TF, 2019, ACS SUSTAIN CHEM ENG, V7, P4177, DOI 10.1021/acssuschemeng.8b05794
Li Y, 2011, J ENVIRON SCI, V23, P1911, DOI 10.1016/S1001-0742(10)60563-3
Liu CF, 2020, INT J HYDROGEN ENERG, V45, P149, DOI 10.1016/j.ijhydene.2019.10.182
Liu M, 2020, APPL SCI-BASEL, V10, DOI 10.3390/app10093238
Lu JS, 2017, APPL SURF SCI, V393, P180, DOI 10.1016/j.apsusc.2016.10.003
Ma JW, 2019, ACS SUSTAIN CHEM ENG, V7, P147, DOI 10.1021/acssuschemeng.8b02235
Magara Y., 1995, PROG NUCL ENERG, V29, P175, DOI [DOI 10.1016/0149-1970(95)00041-H, 10.1016/0149-1970(95)00041-h, https://doi.org/10.1016/0149-1970(95)00041-H]
Malik MA, 2001, PLASMA SOURCES SCI T, V10, P82, DOI 10.1088/0963-0252/10/1/311
Mroczkowska M, 2007, J POWER SOURCES, V173, P729, DOI 10.1016/j.jpowsour.2007.05.048
Nagajyothi PC, 2019, J MATER SCI-MATER EL, V30, P14890, DOI 10.1007/s10854-019-01860-6
Niu MT, 2010, ACS NANO, V4, P681, DOI 10.1021/nn901119a
Pant B, 2021, SEP PURIF TECHNOL, V276, DOI 10.1016/j.seppur.2021.119400
Qi YL, 2018, MATER RES BULL, V102, P16, DOI 10.1016/j.materresbull.2018.02.019
Saud PS, 2017, J ENVIRON CHEM ENG, V5, P5521, DOI 10.1016/j.jece.2017.10.040
Selim H, 2023, CATALYSTS, V13, DOI 10.3390/catal13020363
Sen SK, 2020, ADV NAT SCI-NANOSCI, V11, DOI 10.1088/2043-6254/ab8732
Sharma A, 2019, SN APPL SCI, V1, DOI 10.1007/s42452-019-1485-1
Sharma MVP, 2008, J HAZARD MATER, V160, P568, DOI 10.1016/j.jhazmat.2008.03.042
Sharma R, 2023, SEPARATIONS, V10, DOI 10.3390/separations10060322
Silva GN, 2021, MAT SCI SEMICON PROC, V135, DOI 10.1016/j.mssp.2021.106064
Simonsen ME, 2014, CHEMISTRY OF ADVANCED ENVIRONMENTAL PURIFICATION PROCESSES OF WATER: FUNDAMENTALS AND APPLICATIONS, P135, DOI 10.1016/B978-0-444-53178-0.00004-3
Spliid NH, 1998, CHEMOSPHERE, V37, P1307, DOI 10.1016/S0045-6535(98)00128-3
Tekin D, 2019, SCI REP-UK, V9, DOI 10.1038/s41598-019-54142-w
Thommes M, 2015, PURE APPL CHEM, V87, P1051, DOI 10.1515/pac-2014-1117
Verma A, 2014, CHEMOSPHERE, V109, P7, DOI 10.1016/j.chemosphere.2014.02.051
von Gunten U, 2003, WATER RES, V37, P1469, DOI 10.1016/S0043-1354(02)00458-X
VonSonntag C, 2012, CHEMISTRY OF OZONE IN WATER AND WASTEWATER TREATMENT: FROM BASIC PRINCIPLES TO APPLICATIONS, P1
Wang ZY, 2019, ACS SENSORS, V4, P2048, DOI 10.1021/acssensors.9b00648

Wei ZJ, 2019, NANOMATERIALS-BASEL, V9, DOI 10.3390/nano9071015
Wen XJ, 2017, ACS SUSTAIN CHEM ENG, V5, P5134, DOI 10.1021/acssuschemeng.7b00501
Yadav IC, 2015, SCI TOTAL ENVIRON, V511, P123, DOI 10.1016/j.scitotenv.2014.12.041
Yamaguchi Y, 2020, ACS APPL MATER INTER, V12, P36004, DOI 10.1021/acsami.0c08043
Yeoh JX, 2022, WATER-SUI, V14, DOI 10.3390/w14223778
Yu Y, 2020, APPL SURF SCI, V528, DOI 10.1016/j.apsusc.2020.146819
Zeghioud H, 2020, J WATER PROCESS ENG, V38, DOI 10.1016/j.jwpe.2020.101664
Zhang LL, 2012, NEW J CHEM, V36, P1541, DOI 10.1039/c2nj40206h
Zheng CX, 2017, NANOSCALE RES LETT, V12, DOI 10.1186/s11671-017-2377-1
Zhu PF, 2020, J ALLOY COMPD, V840, DOI 10.1016/j.jallcom.2020.155714

Cited Reference Count: 59

Abstract: Introduction Pesticides such as isoproturon are widely employed and represent a considerable environmental concern. The development of sustainable and efficient degrading techniques is crucial. Photocatalytic degradation employing semiconductor materials is a compelling solution. This study examines the synergistic advantages of heterojunction formation by synthesizing, characterizing, and improving the photocatalytic efficacy of Ag3PO4/SnO2 nanocomposites for the degradation of isoproturon.Methods The Ag3PO4/SnO2 nanocomposite was characterised using powder X-ray diffraction (PXRD), Fourier Transform Infrared Spectroscopy (FTIR), Scanning Electron Microscopy (SEM), Ultraviolet-Diffuse Reflectance Spectroscopy (UV-DRS) and X-ray Photoelectron Spectroscopy (XPS). The effective synthesis of the Ag3PO4/SnO2 heterojunction was confirmed by characterization data from various techniques (PXRD, FTIR, SEM, UV-DRS, XPS).Results and Discussion Elemental mapping confirmed uniform distribution of O, P, Ag, and Sn. High-resolution mass spectrometry (HRMS) was employed to analyse degradation products. The Ag3PO4/SnO2 nanocomposite exhibited improved photocatalytic degradation of isoproturon compared to its precursors. In contrast to 25% for pure SnO2 and 41% for Ag3PO4, over 97% degradation was achieved using Ag3PO4/SnO2 nanocomposite within 120 min of light irradiation under identical conditions. The synergistic effects of heterojunction formation significantly enhanced isoproturon degradation using the Ag3PO4/SnO2 nanocomposite. The heterojunction reduces electron-hole recombination rate and enhances photogenerated charge carriers for degradation via effective charge separation. The improved photocatalytic activity is ascribed to the increased surface area of the nanocomposite. The analysis of HRMS data revealed the degradation products. The findings demonstrate the efficacy of Ag3PO4/SnO2 nanocomposites as photocatalysts for environmental remediation, namely in the breakdown of pesticides.

Accession Number: WOS:001469166300001

PubMed ID: 40256776

Language: English

Document Type: Article

Author Keywords: photocatalysis; nanoparticles; photochemistry; heterojunction; pesticide

KeyWords Plus: COMPOSITE PHOTOCATALYST; WATER; KINETICS; PESTICIDES; MECHANISM; EVOLUTION; RESIDUES; OXIDE

Addresses: [Ram, Rishi] Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi, India.
[Kumar, Sanjeev] SRM Inst Sci & Technol, Dept Chem, Delhi NCR Campus, Ghaziabad, India.
[Kumar, Sanjeev; Kumar, Vinod] Univ Delhi, Dept Chem, Delhi, India.
[Gupta, Akanksha] Technol Bhavan, Dept Sci & Technol, New Delhi, India.
[Kumar, Ravinder] Gurukula Kangri Deemed Be Univ, Dept Chem, Haridwar, Uttarakhand, India.
[Dubey, Kashyap Kumar] Jawaharlal Nehru Univ, Sch Biotechnol, Delhi, India.
[Kumar, Vinod] Jawaharlal Nehru Univ, Special Ctr Nano Sci, Sustainable Energy & Environm Nanotechnol Grp, Delhi, India.

Corresponding Address: Kumar, V (corresponding author), Univ Delhi, Dept Chem, Delhi, India.
Kumar, R (corresponding author), Gurukula Kangri Deemed Be Univ, Dept Chem, Haridwar, Uttarakhand, India.
Kumar, V (corresponding author), Jawaharlal Nehru Univ, Special Ctr Nano Sci, Sustainable Energy & Environm Nanotechnol Grp, Delhi, India.

E-mail Addresses: vkumar2@chemistry.du.ac.in; vinod7674@gmail.com

Affiliations: Jawaharlal Nehru University, New Delhi; SRM Institute of Science & Technology Delhi NCR (Ghaziabad); University of Delhi; Department of Science & Technology (India); Gurukul Kangri Vishwavidyalaya; Jawaharlal Nehru University, New Delhi; Jawaharlal Nehru University, New Delhi

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Dubey, Kashyap	D-6755-2014	

Publisher: FRONTIERS MEDIA SA

Publisher Address: AVENUE DU TRIBUNAL FEDERAL 34, LAUSANNE, CH-1015, SWITZERLAND

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Biotechnology & Applied Microbiology; Engineering, Biomedical

Research Areas: Biotechnology & Applied Microbiology; Engineering

IDS Number: 1NK7B

ISSN: 2296-4185

29-char Source Abbrev.: FRONT BIOENG BIOTECH

ISO Source Abbrev.: Front. Bioeng. Biotechnol.

Source Item Page Count: 13

Funding:

Funding Agency	Grant Number
Council of Scientific and Industrial Research for Junior Research Fellowship	231610271964

Author Rishi Ram thanks Council of Scientific and Industrial Research for Junior Research Fellowship (NTA Ref. No.: 231610271964). Author wants to sincerely thank to special centre for nanoscience and advance instrumentation research facility for providing instrumentation and working space.

Open Access: gold

Output Date: 2025-05-06

Record 30 of 33

Title: Differential genome organization revealed by comparative topological analysis of Mycobacterium tuberculosis strains H37Rv and H37Ra

Author(s): Mishra, M (Mishra, Mohit); Arya, A (Arya, Ajay); Malik, MZ (Malik, Md. Zubbair); Mishra, A (Mishra, Akanksha); Hasnain, SE (Hasnain, Seyed E.); Bhatnagar, R (Bhatnagar, Rakesh); Ahmad, S (Ahmad, Shandar); Chaturvedi, R (Chaturvedi, Rupesh)

Source: MSYSTEMS **DOI:** 10.1128/msystems.00562-24 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 7

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Akhter Y, 2012, BIOCHIMIE, V94, P110, DOI 10.1016/j.biochi.2011.09.026
Andrabi M, 2017, SCI REP-UK, V7, DOI 10.1038/s41598-017-03199-6
Boya R, 2017, NUCLEIC ACIDS RES, V45, P11070, DOI 10.1093/nar/gkx722
Cagliero C, 2013, NUCLEIC ACIDS RES, V41, P6058, DOI 10.1093/nar/gkt325
Camacho LR, 2001, J BIOL CHEM, V276, P19845, DOI 10.1074/jbc.M100662200
Chakaya J, 2021, INT J INFECT DIS, V113, pS7, DOI 10.1016/j.ijid.2021.02.107
Chakaya JM, 2020, LANCET RESP MED, V8, P334, DOI 10.1016/S2213-2600(20)30104-1
Chesne-Seck ML, 2008, J BACTERIOL, V190, P1329, DOI 10.1128/JB.01465-07
Cole ST, 1998, NATURE, V393, P537, DOI 10.1038/31159
Dame RT, 2011, MOL MICROBIOL, V82, P1311, DOI 10.1111/j.1365-2958.2011.07898.x
Dawes SS, 2003, INFECT IMMUN, V71, P6124, DOI 10.1128/IAI.71.11.6124-6131.2003
Dekker J, 2015, FEBS LETT, V589, P2877, DOI 10.1016/j.febslet.2015.08.044
Dillon SC, 2010, NAT REV MICROBIOL, V8, P185, DOI 10.1038/nrmicro2261
Dixon JR, 2012, NATURE, V485, P376, DOI 10.1038/nature11082
Elghraoui A, 2017, BMC GENOMICS, V18, DOI 10.1186/s12864-017-3687-5
Fishbein S, 2015, MOL MICROBIOL, V96, P901, DOI 10.1111/mmi.12981
Ge SX, 2020, BIOINFORMATICS, V36, P2628, DOI 10.1093/bioinformatics/btz931
Gey van Pittius NC, 2006, BMC EVOL BIOL, V6, DOI 10.1186/1471-2148-6-95
Gibcus JH, 2013, MOL CELL, V49, P773, DOI 10.1016/j.molcel.2013.02.011
Goldstone RM, 2009, INFECT IMMUN, V77, P4654, DOI 10.1128/IAI.01495-08
Knight PA, 2013, IMA J NUMER ANAL, V33, P1029, DOI 10.1093/imanum/drs019
Le TBK, 2013, SCIENCE, V342, P731, DOI 10.1126/science.1242059
Lee JS, 2008, CELL HOST MICROBE, V3, P97, DOI 10.1016/j.chom.2008.01.002
Li YY, 2013, BMC GENOMICS, V14, DOI [10.1186/1471-2164-14-553, 10.1186/1471-2164-14-579]
Lieberman-Aiden E, 2009, SCIENCE, V326, P289, DOI 10.1126/science.1181369
Lioy VS, 2018, CELL, V172, P771, DOI 10.1016/j.cell.2017.12.027
Liu C, 2015, GENOME BIOL, V16, DOI 10.1186/s13059-015-0738-6
Lu LD, 2010, J BIOL CHEM, V285, P28076, DOI 10.1074/jbc.M109.088872
Marbouty M, 2015, MOL CELL, V59, P588, DOI 10.1016/j.molcel.2015.07.020
Noom MC, 2007, CURR BIOL, V17, pR913, DOI 10.1016/j.cub.2007.09.005
Ozonov EA, 2013, PLOS COMPUT BIOL, V9, DOI 10.1371/journal.pcbi.1003181
Rao SSP, 2014, CELL, V159, P1665, DOI 10.1016/j.cell.2014.11.021
Rens C, 2021, MICROBIOL-SGM, V167, DOI 10.1099/mic.0.001042
Sati S, 2017, CHROMOSOMA, V126, P33, DOI 10.1007/s00412-016-0593-6
Sauerwald N, 2020, NAR GENOM BIOINFORM, V2, DOI 10.1093/nargab/lqz008
Sherman DR, 2001, P NATL ACAD SCI USA, V98, P7534, DOI 10.1073/pnas.121172498
Slama N, 2016, MOL MICROBIOL, V99, P794, DOI 10.1111/mmi.13266
STEENKEN W, 1946, AM REV TUBERC PULM, V54, P62
Trussart M, 2017, NAT COMMUN, V8, DOI 10.1038/ncomms14665
Umbarger MA, 2011, MOL CELL, V44, P252, DOI 10.1016/j.molcel.2011.09.010
Verma R, 2017, J PROTEOME RES, V16, P1632, DOI 10.1021/acs.jproteome.6b00983
Wang WQ, 2011, SCIENCE, V333, P1445, DOI 10.1126/science.1204697
Wang XD, 2017, SCIENCE, V355, P524, DOI 10.1126/science.aai8982
Wolff J, 2018, NUCLEIC ACIDS RES, V46, pW11, DOI 10.1093/nar/gky504
Zhang XG, 2021, GENOME BIOL, V22, DOI 10.1186/s13059-021-02520-x
Zheng HJ, 2008, PLOS ONE, V3, DOI 10.1371/journal.pone.0002375
Zuin J, 2014, P NATL ACAD SCI USA, V111, P996, DOI 10.1073/pnas.1317788111

Cited Reference Count: 47

Abstract: Recent studies have shown that three-dimensional architecture of bacterial chromatin plays an important role in gene expression regulation. However, genome topological organization in Mycobacterium tuberculosis, the etiologic agent of tuberculosis, remains unknown. On the other hand, the exact mechanism of differential pathogenesis in the canonical strains of M. tuberculosis H37Rv and H37Ra remains poorly understood in terms of their raw sequences. In this context, a detailed contact map from a Hi-C experiment is a candidate for what bridges the gap. Here, we present the first comprehensive report on genome-wide contact maps between regions of H37Rv and H37Ra genomes. We tracked differences between the genome architectures of H37Rv and H37Ra, which could possibly explain the virulence attenuation in H37Ra. We confirm the existence of a differential organization between the two strains most significantly a higher chromosome interaction domain (CID) size in the attenuated H37Ra strain. CID boundaries are also found enriched with highly expressed genes and with higher operon density in H37Rv. Furthermore, most of the differentially expressed PE/PPE genes were present near the CID boundaries in H37Rv and not in H37Ra. We also found a systemic reorganization of CIDs in both virulent H37Rv and avirulent H37Ra strains after hypoxia induction. Collectively, our study proposes a differential genomic topological pattern between H37Rv and H37Ra, which could explain the virulence attenuation in H37Ra.IMPORTANCEGenome organization studies using chromosome conformation capture techniques have proved to be useful in establishing a three-dimensional (3D) landscape of bacterial chromatin. The sequence-based studies failed to unveil the exact mechanism for virulence attenuation in one of the Mycobacterium tuberculosis strains H37Ra. Moreover, as of today, no study investigated the 3D structure of the M. tuberculosis genome and how 3D genome organization affects transcription in M. tuberculosis. We investigated the genome topology in virulent and attenuated strains of M. tuberculosis using Hi-C. Our study demonstrated that virulent and attenuated M. tuberculosis strains exhibit distinct topological features that correlate with higher gene expression of virulence genes in the virulent H37Rv strain.

Accession Number: WOS:001460457000001

PubMed ID: 40192326

Language: English

Document Type: Article; Early Access

Author Keywords: <italic>M. tuberculosis</italic>; Hi-C; CID; CID boundaries; gene expression

KeyWords Plus: COLI CHROMOSOME; MUTATION; ARCHITECTURE; REPLICATION; EXPRESSION; PRINCIPLES; VIRULENCE; CONDENSIN; PROTEIN; ORIGIN

Addresses: [Mishra, Mohit; Malik, Md. Zubbair; Chaturvedi, Rupesh] Jawaharlal Nehru Univ, Sch Biotechnol, New Delhi, India.
[Arya, Ajay; Mishra, Akanksha; Ahmad, Shandar] Jawaharlal Nehru Univ, Sch Computat & Integrat Sci, New Delhi, India.
[Malik, Md. Zubbair] Dasman Diabet Inst, Dept Genet & Bioinformat, Kuwait, Kuwait.
[Hasnain, Seyed E.] Indian Inst Technol Delhi, Dept Biochem Engn & Biotechnol, New Delhi, India.
[Hasnain, Seyed E.] Sharda Univ, Sch Basic Sci & Res, Dept Life Sci, Greater Noida, India.
[Bhatnagar, Rakesh] Amity Univ, Jaipur, Rajasthan, India.
[Chaturvedi, Rupesh] Jawaharlal Nehru Univ, Special Ctr Syst Med, New Delhi, India.
[Chaturvedi, Rupesh] Jawaharlal Nehru Univ, Fdn Innovat, Nanofluidiks Pvt Ltd, New Delhi, India.

Corresponding Address: Chaturvedi, R (corresponding author), Jawaharlal Nehru Univ, Sch Biotechnol, New Delhi, India.
Ahmad, S (corresponding author), Jawaharlal Nehru Univ, Sch Computat & Integrat Sci, New Delhi, India.
Chaturvedi, R (corresponding author), Jawaharlal Nehru Univ, Special Ctr Syst Med, New Delhi, India.
Chaturvedi, R (corresponding author), Jawaharlal Nehru Univ, Fdn Innovat, Nanofluidiks Pvt Ltd, New Delhi, India.

E-mail Addresses: shandar@jnu.ac.in; rupesh.chaturvedi.jnu@gmail.com

Affiliations: Jawaharlal Nehru University, New Delhi; Jawaharlal Nehru University, New Delhi; Dasman Diabetes Institute (DDI); Indian Institute of Technology System (IIT System); Indian Institute of Technology (IIT) - Delhi; Sharda University; Jawaharlal Nehru University, New Delhi; Jawaharlal Nehru University, New Delhi

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Hasnain, Seyed	AAS-2730-2020	
Malik, Md. Zubbair	GPT-6580-2022	
Chaturvedi, rupesh		0000-0002-8219-8465
Ahmad, Shandar		0000-0002-7287-305X

Publisher: AMER SOC MICROBIOLOGY

Publisher Address: 1752 N ST NW, WASHINGTON, DC 20036-2904 USA

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Microbiology

Research Areas: Microbiology

IDS Number: 1AP0B

eISSN: 2379-5077

29-char Source Abbrev.: MSYSTEMS

ISO Source Abbrev.: mSystems

Source Item Page Count: 19

Funding:

Funding Agency	Grant Number
This work was primarily supported by DST | Science and Engineering Research Board (SERB)	

The authors would like to thank the Jawaharlal Nehru University facility and all funding agencies for supporting us.

Open Access: gold

Output Date: 2025-05-06

Record 31 of 33

Title: Novel genetic associations with childhood adipocytokines in Indian adolescents

Author(s): Nair, JM (Nair, Janaki M.); Chauhan, G (Chauhan, Ganesh); Prasad, G (Prasad, Gauri); Chakraborty, S (Chakraborty, Shraddha); Bandesh, K (Bandesh, Khushdeep); Giri, AK (Giri, Anil K.); Marwaha, RK (Marwaha, Raman K.); Basu, A (Basu, Analabha); Tandon, N (Tandon, Nikhil); Bharadwaj, D (Bharadwaj, Dwaipayan)

Source: CYTOKINE **Volume:** 190 **Article Number:** 156935 **DOI:** 10.1016/j.cyto.2025.156935 **Early Access Date:** APR 2025 **Published Date:** 2025 JUN

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 1

Usage Count (Since 2013): 1

Cited References: Bandesh K, 2019, PLOS ONE, V14, DOI 10.1371/journal.pone.0213255
Breeze CE, 2024, GENOME BIOL, V25, DOI 10.1186/s13059-023-03126-1
Cesari M, 2007, J CLIN ENDOCR METAB, V92, P3082, DOI 10.1210/jc.2007-0403
Chakraborty S, 2020, INDIAN J MED RES, V151, P47, DOI 10.4103/ijmr.IJMR_1631_18
Cingolani P, 2012, FLY, V6, P80, DOI 10.4161/fly.19695
Cingolani Pablo, 2012, Frontiers in Genetics, V3, P35, DOI 10.3389/fgene.2012.00035
Comuzzie AG, 2001, J CLIN ENDOCR METAB, V86, P4321, DOI 10.1210/jc.86.9.4321
Das S, 2016, NAT GENET, V48, P1284, DOI 10.1038/ng.3656
Dwivedi OP, 2013, J HUM GENET, V58, P27, DOI 10.1038/jhg.2012.129
Fuchsberger C, 2015, BIOINFORMATICS, V31, P782, DOI 10.1093/bioinformatics/btu704
Hivert MF, 2009, DIABETES, V58, P750, DOI 10.2337/db08-1339
Hivert MF, 2008, DIABETES, V57, P3353, DOI 10.2337/db08-0700
Kershaw EE, 2004, J CLIN ENDOCR METAB, V89, P2548, DOI 10.1210/jc.2004-0395
Kocot J, 2017, MED SCI MONITOR, V23, P4995, DOI 10.12659/MSM.904318
Lee SH, 2015, ENDOCRINOL METAB, V30, P175, DOI 10.3803/EnM.2015.30.2.175
Ling H, 2009, OBESITY, V17, P737, DOI 10.1038/oby.2008.625
Liu JK, 2010, CLIN ENDOCRINOL, V72, P32, DOI 10.1111/j.1365-2265.2009.03627.x
Liu PH, 2008, TWIN RES HUM GENET, V11, P495, DOI 10.1375/twin.11.5.495
Mbatchou J, 2021, NAT GENET, V53, P1097, DOI 10.1038/s41588-021-00870-7
Meek TH, 2016, DIABETOLOGIA, V59, P928, DOI 10.1007/s00125-016-3898-3
Menzaghi C, 2007, DIABETES, V56, P1198, DOI 10.2337/db06-0506
Menzaghi C, 2006, J CLIN ENDOCR METAB, V91, P2792, DOI 10.1210/jc.2005-2715
Narkiewicz K, 1999, J HYPERTENS, V17, P27, DOI 10.1097/00004872-199917010-00005
Patterson N, 2006, PLOS GENET, V2, P2074, DOI 10.1371/journal.pgen.0020190
Purcell S, 2007, AM J HUM GENET, V81, P559, DOI 10.1086/519795
Qadir MI, 2017, CRIT REV EUKAR GENE, V27, P47, DOI 10.1615/CritRevEukaryotGeneExpr.2017019386
Qi QB, 2012, HUM MOL GENET, V21, P4774, DOI 10.1093/hmg/dds300
Rice T, 2002, OBES RES, V10, P351, DOI 10.1038/oby.2002.49
Sarsani V, 2024, HUM GENET GENOM ADV, V5, DOI 10.1016/j.xhgg.2023.100252
Shoelson SE, 2006, J CLIN INVEST, V116, P1793, DOI [10.1172/JCI29069, 10.1016/j.febslet.2007.11.057]
Sollis E, 2023, NUCLEIC ACIDS RES, V51, pD977, DOI 10.1093/nar/gkac1010
Taliun D, 2021, NATURE, V590, DOI 10.1038/s41586-021-03205-y
Tilg H, 2006, NAT REV IMMUNOL, V6, P772, DOI 10.1038/nri1937
Vrachnis N, 2012, INT J ENDOCRINOL, V2012, DOI 10.1155/2012/549748
Willer CJ, 2010, BIOINFORMATICS, V26, P2190, DOI 10.1093/bioinformatics/btq340
Yaghootkar H, 2020, DIABETES, V69, P2806, DOI 10.2337/db20-0070

Cited Reference Count: 36

Abstract: Adipocytokines, including leptin, adiponectin, and resistin, are key mediators linking adiposity, insulin resistance, and inflammation. We present the first genome-wide association study (GWAS; N = 5258) and exomewide association study (ExWAS; N = 4578) on leptin, adiponectin, and resistin in South Asian population. We identified novel associations in genes ZNF467, and LEPREL2 for leptin; ZNF467, LEPREL2, CRLF3, ZNF732, SOX30, XIRP1, ATP8B3, SPATA2L, TMCO4, TLN2, ABCA12, and SHB for adiponectin; and D2HGDH for resistin. Additionally, we confirmed known associations of FTO, MC4R, and HOXB3 with leptin and ADIPOQ with adiponectin. Notably, ADIPOQ variants were consistently significant across GWAS, ExWAS, and gene-based analyses, reinforcing their central role in regulating adiponectin levels. Most of these novel associations identified were population-specific, highlighting the importance of studying diverse populations to uncover unique genetic signals. After adjusting for BMI, the associations with adiponectin and resistin remained significant, whereas most associations for leptin weakened in both effect size and significance. Functional annotation revealed that the identified variants were enriched for

expression in adipose tissue, the brain (cerebellar hemisphere and cerebral cortex), and the pituitary gland. These variants act as eQTLs and splice-QTLs in adipose, brain, and pancreas, suggesting cross-tissue regulatory mechanisms. ExWAS further implicated rare variant burden in genes such as LONP1, ZNF335, and TTC16 for adiponectin and resistin. These findings enhance our understanding of adipocytokine biology, emphasises the need for population-specific genetic research, and lays foundation for future functional studies.

Accession Number: WOS:001464576300001

PubMed ID: 40187068

Language: English

Document Type: Article

Author Keywords: Adipokines; Leptin; Adiponectin; Resistin; Genetics; Genome-wide association study; Exome-wide association study; Single nucleotide polymorphism; Adipose

KeyWords Plus: PLASMA ADIPONECTIN LEVELS; INSULIN-RESISTANCE; ADIPOSE-TISSUE; LEPTIN; GENOME; HERITABILITY; VARIANTS; INFLAMMATION; LINKAGE; OBESITY

Addresses: [Nair, Janaki M.; Bharadwaj, Dwaipayan] Jawaharlal Nehru Univ, Sch Biotechnol, Syst Genom Lab, New Delhi 110067, India.
[Chauhan, Ganesh; Prasad, Gauri; Chakraborty, Shraddha; Bandesh, Khushdeep; Giri, Anil K.] CSIR Inst Genom & Integrat Biol, Delhi 110025, India.
[Chauhan, Ganesh; Prasad, Gauri; Chakraborty, Shraddha; Bandesh, Khushdeep; Giri, Anil K.] Acad Sci & Innovat Res AcSIR, Ghaziabad 201002, India.
[Marwaha, Raman K.] Int Life Sci Inst ILSI, New Delhi, India.
[Basu, Analabha] Natl Inst Biomed Genom, Kalyani 741251, West Bengal, India.
[Tandon, Nikhil] All India Inst Med Sci, Dept Endocrinol & Metab, New Delhi 110029, India.

Corresponding Address: Bharadwaj, D (corresponding author), Jawaharlal Nehru Univ, Sch Biotechnol, Syst Genom Lab, New Delhi 110067, India.
Tandon, N (corresponding author), All India Inst Med Sci, Dept Endocrinol & Metab, New Delhi 110029, India.

E-mail Addresses: nikhil_tandon@hotmail.com; db@jnu.ac.in

Affiliations: Jawaharlal Nehru University, New Delhi; Council of Scientific & Industrial Research (CSIR) - India; CSIR - Institute of Genomics & Integrative Biology (IGIB); Academy of Scientific & Innovative Research (AcSIR); Department of Biotechnology (DBT) India; National Institute of Biomedical Genomics (NIBMG); All India Institute of Medical Sciences (AIIMS) New Delhi

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Bandesh, Khushdeep	AAF-7300-2021	
Marwaha, Raman	AAQ-7475-2021	
Giri, Anil	ABC-0900-2022	

Publisher: ACADEMIC PRESS LTD- ELSEVIER SCIENCE LTD

Publisher Address: 24-28 OVAL RD, LONDON NW1 7DX, ENGLAND

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Biochemistry & Molecular Biology; Cell Biology; Immunology

Research Areas: Biochemistry & Molecular Biology; Cell Biology; Immunology

IDS Number: 1GQ7N

ISSN: 1043-4666

eISSN: 1096-0023

29-char Source Abbrev.: CYTOKINE

ISO Source Abbrev.: Cytokine

Source Item Page Count: 9

Funding:

Funding Agency	Grant Number
variation and epigenetics' (GLUE)	N 1292
Department of Science & Technology, Government of India	PURSE II CDST/SR/PURSE PHASE II/11

Major funding for this study was sponsored by the Department of Biotechnology, Government of India under two projects: 'Genetics and systems biology of childhood obesity in India and Denmark' (BIOCHILD) [GAP 0089] and 'Childhood Obesity: inflammatory markers, genevariation and epigenetics' (GLUE) [N 1292]. Partial <STRONG>Funding </STRONG>for this study was also granted by the Department of Science & Technology, Government of India (PURSE II CDST/SR/PURSE PHASE II/11).

Output Date: 2025-05-06

Record 32 of 33

Title: Machine learning-guided Orbitrap-HRAMS-based metabolomic fingerprinting for geographical origin, variety and tissue specific authentication, and adulteration detection of turmeric and ashwagandha

Author(s): Ratnasekhar, CH (Ratnasekhar, C. H.); Rai, AK (Rai, Abhishek Kumar); Rakwal, P (Rakwal, Poonam); Khan, S (Khan, Samreen); Verma, AK (Verma, Anoop Kumar); Mukhopadhyay, P (Mukhopadhyay, Pradipto); Rathor, P (Rathor, Priya); Hinghrani, L (Hinghrani, Lal); Birse, N (Birse, Nicholas); Trivedi, R (Trivedi, Ritu); Trivedi, PK (Trivedi, Prabodh Kumar)

Source: FOOD CHEMISTRY **Volume:** 482 **Article Number:** 144078 **DOI:** 10.1016/j.foodchem.2025.144078 **Early Access Date:** APR 2025 **Published Date:** 2025 AUG 1

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 5

Usage Count (Since 2013): 5

Cited References: [Anonymous], 2024, Spices and Culinary HerbsWorldwide
Awin T, 2016, IND CROP PROD, V94, P342, DOI 10.1016/j.indcrop.2016.08.020
Bhatia A, 2013, PHYTOCHEMISTRY, V93, P105, DOI 10.1016/j.phytochem.2013.03.013
Black C, 2016, FOOD CHEM, V210, P551, DOI 10.1016/j.foodchem.2016.05.004
Ch R, 2021, NAT COMMUN, V12, DOI 10.1038/s41467-020-20479-4
Ch R, 2021, FOOD CHEM, V334, DOI 10.1016/j.foodchem.2020.127553
Chaudhary D., 2023, Herbs, spices and their roles in nutraceuticals and functional foods, P1, DOI DOI 10.1016/B978-0-323-90794-1.00003-X
de Santana FB, 2019, FOOD CHEM, V293, P323, DOI 10.1016/j.foodchem.2019.04.073
Dini I, 2018, HANDB FOOD BIOENG, V13, P433, DOI 10.1016/B978-0-12-811442-1.00014-6
Eneojo O., 2024, Herbs and spices-New perspectives in human health and food industry, DOI [10.5772/intechopen.1004345, DOI 10.5772/INTECHOPEN.1004345]
Forsyth JE, 2024, SCI TOTAL ENVIRON, V949, DOI 10.1016/j.scitotenv.2024.175003
Galvin-King P, 2018, FOOD CONTROL, V88, P85, DOI 10.1016/j.foodcont.2017.12.031
Garcia L, 2025, FOOD CHEM, V464, DOI 10.1016/j.foodchem.2024.141517
Granato D, 2018, COMPR REV FOOD SCI F, V17, P663, DOI 10.1111/1541-4337.12341
Hong YH, 2023, NAT COMMUN, V14, DOI 10.1038/s41467-023-38382-z
Ibrahim NNA, 2023, FOOD TECHNOL BIOTECH, V61, P104, DOI 10.17113/ftb.61.01.23.7711
Jiang TA, 2019, J AOAC INT, V102, P395, DOI 10.5740/jaoacint.18-0418

Khan S, 2023, J PHARM ANAL, V13, P1041, DOI 10.1016/j.jpha.2023.04.018
Thi KON, 2021, NAT PROD COMMUN, V16, DOI 10.1177/1934578X211045479
Mialon N, 2023, FOOD CHEM, V398, DOI 10.1016/j.foodchem.2022.133856
Mukherjee A., 2024, Making India the Global Hub for Turmeric
Namdeo AG, 2011, PLANTA MED, V77, P1958, DOI 10.1055/s-0031-1279997
Núñez N, 2020, MOLECULES, V25, DOI 10.3390/molecules25122942
Polcaro LM, 2025, J PHARMACEUT BIOMED, V253, DOI 10.1016/j.jpba.2024.116520
Pomerantsev AL, 2014, J CHEMOMETR, V28, P429, DOI 10.1002/cem.2506
Prasad S., 2011, Herbal Medicine: Biomolecular and Clinical Aspects
Praveen A, 2024, FOOD CHEM, V461, DOI 10.1016/j.foodchem.2024.140839
Rivera-Pérez A, 2025, FOOD CHEM, V463, DOI 10.1016/j.foodchem.2024.141385
Rodionova OY, 2024, TRENDS FOOD SCI TECH, V147, DOI 10.1016/j.tifs.2024.104429
Rolfe V, 2020, EUR J INTEGR MED, V40, DOI 10.1016/j.eujim.2020.101252
Salem MA, 2022, SCI REP-UK, V12, DOI 10.1038/s41598-022-13882-y
Shannon M, 2022, FOOD CONTROL, V139, DOI 10.1016/j.foodcont.2022.109093
Sharma S., 2023, Food Chemistry Advances, V2, DOI [10.1016/j.focha.2023.100204, DOI 10.1016/J.FOCHA.2023.100204]
Shinde S, 2023, ACS OMEGA, V8, P40982, DOI 10.1021/acsomega.3c03491
Shuai MY, 2022, FOOD CHEM, V374, DOI 10.1016/j.foodchem.2021.131713
Singh N, 2024, FOOD CHEM, V456, DOI 10.1016/j.foodchem.2024.139985
Su HR, 2025, FOOD CHEM, V463, DOI 10.1016/j.foodchem.2024.141486
Székács A, 2018, FOOD CONTROL, V83, P1, DOI 10.1016/j.foodcont.2017.06.033
Velazquez R., 2023, Spice and herb frauds: Types, incidence, and detection: The state of the art
Verlegh P., 2001, Food, people and society, P267, DOI [DOI 10.1007/978-3-662-04601-217, 10.1007/978-3-662-04601-2_17, DOI 10.1007/978-3-662-04601-2_17]
Wei WL, 2025, FOOD CHEM, V472, DOI 10.1016/j.foodchem.2025.142842
Westerhuis JA, 2008, METABOLOMICS, V4, P81, DOI 10.1007/s11306-007-0099-6
Zontov YV, 2017, CHEMOMETR INTELL LAB, V167, P23, DOI 10.1016/j.chemolab.2017.05.010

Cited Reference Count: 43

Abstract: The increasing global demand for herbs and spices in food and nutraceutical industries highlights their key functional benefits, including antioxidant and anti-inflammatory properties. Ensuring authenticity and traceability is essential to counteract challenges such as geographical origin (GO) mislabelling and tissue-or variety-specific adulteration, which can undermine product quality and safety. This study employs LC-Orbitrap-MSbased untargeted metabolomics coupled with machine learning to authenticate the GO, variety, and tissue specificity of turmeric (Curcuma longa) and ashwagandha (Withania somnifera), two widely used food ingredients. Four GO-specific turmeric samples, three tissue-and variety-specific ashwagandha samples, and adulterated market samples were analysed using data-dependent acquisition mode. Machine learning algorithms identified key biomarkers and constructed robust classification models, achieving 98 % specificity and accuracy in authenticating GO, variety, and tissue specificity, even in adulterated samples. These results demonstrate the value of integrating advanced metabolomics and machine learning for quality assurance and food safety in the global market.

Accession Number: WOS:001464253200001

PubMed ID: 40187315

Language: English

Document Type: Article

Author Keywords: Metabolomic fingerprinting; Machine learning models; Turmeric; Ashwagandha; Adulteration; LC-Orbitrap-HRAMS

KeyWords Plus: WITHANIA-SOMNIFERA; HERBS

Addresses: [Ratnasekhar, C. H.; Rai, Abhishek Kumar; Rakwal, Poonam; Khan, Samreen; Verma, Anoop Kumar] Cent Inst Med & Aromat Plants CIMAP, Metabol Lab, CSIR, Lucknow 226015, India.
[Ratnasekhar, C. H.; Rai, Abhishek Kumar; Rakwal, Poonam; Khan, Samreen; Rathor, Priya; Trivedi, Prabodh Kumar] Acad Sci & Innovat Res AcSIR, Ghaziabad 201002, India.
[Ratnasekhar, C. H.; Birse, Nicholas] Queens Univ, Sch Biol Sci, Belfast BT9 5DL, North Ireland.
[Verma, Anoop Kumar] Jawaharlal Nehru Univ, New Delhi 110067, India.
[Mukhopadhyay, Pradipto; Trivedi, Prabodh Kumar] CSIR, Dept Biotechnol, CIMAP, Lucknow, India.
[Hinghrani, Lal] Pharmanza Herbal Pvt Ltd, Kaniya 388435, Gujarat, India.
[Trivedi, Ritu] Cent Drug Res Inst CDRI, CSIR, Lucknow 226031, India.

Corresponding Address: Ratnasekhar, CH (corresponding author), Cent Inst Med & Aromat Plants CIMAP, Metabol Lab, CSIR, Lucknow 226015, India.

E-mail Addresses: rsekhar.metabolomics@gmail.com

Affiliations: Council of Scientific & Industrial Research (CSIR) - India; CSIR - Central Institute of Medicinal & Aromatic Plants (CIMAP); Academy of Scientific & Innovative Research (AcSIR); Queens University Belfast; Jawaharlal Nehru University, New Delhi; Council of Scientific & Industrial Research (CSIR) - India; CSIR - Central Institute of Medicinal & Aromatic Plants (CIMAP); Council of Scientific & Industrial Research (CSIR) - India; CSIR - Central Drug Research Institute (CDRI)

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Birse, Nicholas		0000-0002-3867-3273

Publisher: ELSEVIER SCI LTD

Publisher Address: 125 London Wall, London, ENGLAND

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Chemistry, Applied; Food Science & Technology; Nutrition & Dietetics

Research Areas: Chemistry; Food Science & Technology; Nutrition & Dietetics

IDS Number: 1GE3G

ISSN: 0308-8146

eISSN: 1873-7072

29-char Source Abbrev.: FOOD CHEM

ISO Source Abbrev.: Food Chem.

Source Item Page Count: 16

Funding:

Funding Agency	Grant Number
DST-Science and Engineering Research Board	CSIR/RDSF/IHP24/04
DBT	
Aroma mission	HCP-0007
DBT-JRF fellowship	
UGC-JRF fellowship	
CSIR, India	FC2020-23/NMITLI/TLP0001 TLP0002
	SRG/2021/000750-G
	BT-RLF-Reentry-21-2020

Ratnasekhar CH acknowledges research grants from DST-Science and Engineering Research Board (SRG/2021/000750-G) , CSIR/RDSF/IHP24/04 and DBT (BT-RLF-Reentry-21-2020) for the Ramaligaswami re-entry fellowship programme. We are also grateful for access to the High-throughput instrumentation facility at CSIR-CIMAP. Abhishek Kumar Rai and Samreen Khan was supported by Aroma mission HCP-0007 for their fellowship. Anoop Kumar Verma was supported by DBT-JRF fellowship. Poonam Raqwal and Priya Rathor were supported by UGC-JRF fellowship. We also thank Director, CIMAP for providing facility and infrastructure. Nick Birse acknowledges IGFS, QUB. Authors thank CSIR, India for NMITLI grants (Grant Nos.: FC2020-23/NMITLI/TLP0001 & TLP0002) . Authors acknowledge CIMAP communication number CIMAP/Pub/2025/38.

Output Date: 2025-05-06

Record 33 of 33

Title: Defects-Induced Fermi Level Modulation and Exciton-to-Trion Conversion in a CVD-Grown MoS₂ Thin Film

Author(s): Kumawat, A (Kumawat, Asheesh); Rawat, M (Rawat, Meera); Yadav, A (Yadav, Aditya); Gupta, G (Gupta, Govind); Kumawat, K (Kumawat, Kajal); Kumawat, MK (Kumawat, Manoj Kumar)

Source: ACS APPLIED ELECTRONIC MATERIALS **DOI:** 10.1021/acsaelm.5c00255 **Early Access Date:** APR 2025 **Published Date:** 2025 APR 16

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 0

Usage Count (Since 2013): 0

Cited References: Abidi IH, 2024, ADV FUNCT MATER, V34, DOI 10.1002/adfm.202402402
An Z., 2023, Physical Review B, DOI 10.1103/PhysRevB.108.L041404
Bertolazzi S, 2017, ADV MATER, V29, DOI 10.1002/adma.201606760
Bertolazzi S, 2011, ACS NANO, V5, P9703, DOI 10.1021/nn203879f
Biswas S, 2023, ACS NANO, V17, P7685, DOI 10.1021/acsnano.3c00145
Chakraborty B, 2013, J RAMAN SPECTROSC, V44, P92, DOI 10.1002/jrs.4147
Chen Y, 2018, ACS NANO, V12, P2569, DOI 10.1021/acsnano.7b08418
Comedi D, 2006, J APPL PHYS, V99, DOI 10.1063/1.2162989
Dubey S, 2017, ACS NANO, V11, P11206, DOI 10.1021/acsnano.7b05520
Fox DS, 2015, NANO LETT, V15, P5307, DOI 10.1021/acs.nanolett.5b01673
Gao L, 2021, PHYS CHEM CHEM PHYS, V23, P8222, DOI 10.1039/d1cp00006c
Garg S, 2024, NANOSCALE, V16, P20689, DOI 10.1039/d4nr02577f
Han SW, 2013, PHYS REV LETT, V110, DOI 10.1103/PhysRevLett.110.247201
He ZY, 2018, ACS APPL MATER INTER, V10, P42524, DOI 10.1021/acsami.8b17145
Hu C, 2018, APPL PHYS LETT, V113, DOI 10.1063/1.5038602
Hu JT, 2021, NAT CATAL, V4, P242, DOI 10.1038/s41929-021-00584-3
Huang SX, 2016, NANO LETT, V16, P1435, DOI 10.1021/acs.nanolett.5b05015
Ji E, 2022, NANOSCALE, V14, P14106, DOI 10.1039/d2nr03455g
Khan M, 2023, APPL SURF SCI, V639, DOI 10.1016/j.apsusc.2023.158106
Komsa HP, 2015, PHYS REV B, V91, DOI 10.1103/PhysRevB.91.125304
Komsa HP, 2012, PHYS REV LETT, V109, DOI 10.1103/PhysRevLett.109.035503
Lee JC, 2023, APPL SURF SCI, V613, DOI 10.1016/j.apsusc.2022.155900
Lee SY, 2016, ACS NANO, V10, P6100, DOI 10.1021/acsnano.6b01742
Li GQ, 2016, J AM CHEM SOC, V138, P16632, DOI 10.1021/jacs.6b05940
Li H, 2016, NAT MATER, V15, P48, DOI [10.1038/NMAT4465, 10.1038/nmat4465]

Li WS, 2015, SCI REP-UK, V5, DOI 10.1038/srep09935
Lin YX, 2014, NANO LETT, V14, P5569, DOI 10.1021/nl501988y
Liu KK, 2012, NANO LETT, V12, P1538, DOI 10.1021/nl2043612
Lloyd D, 2016, NANO LETT, V16, P5836, DOI 10.1021/acs.nanolett.6b02615
Lu XX, 2021, CHEM ENG J, V420, DOI 10.1016/j.cej.2020.127709
Mak KF, 2013, NAT MATER, V12, P207, DOI [10.1038/nmat3505, 10.1038/NMAT3505]
Mathew S, 2012, APPL PHYS LETT, V101, DOI 10.1063/1.4750237
Mignuzzi S, 2015, PHYS REV B, V91, DOI 10.1103/PhysRevB.91.195411
Nan HY, 2014, ACS NANO, V8, P5738, DOI 10.1021/nn500532f
Park YJ, 2024, NANO RES, V17, P5549, DOI 10.1007/s12274-024-6422-y
Qin CB, 2016, ADV OPT MATER, V4, P1429, DOI 10.1002/adom.201600323
Qiu H, 2013, NAT COMMUN, V4, DOI 10.1038/ncomms3642
Saigal N, 2016, APPL PHYS LETT, V109, DOI 10.1063/1.4963133
Schwierz F, 2011, NAT NANOTECHNOL, V6, P135, DOI 10.1038/nnano.2011.26
Tongay S, 2013, SCI REP-UK, V3, DOI 10.1038/srep02657
Ugeda MM, 2014, NAT MATER, V13, P1091, DOI [10.1038/nmat4061, 10.1038/NMAT4061]
Wang J, 2022, J PHYS CHEM C, V126, P15319, DOI 10.1021/acs.jpcc.2c04550
Wang QH, 2012, NAT NANOTECHNOL, V7, P699, DOI [10.1038/NNANO.2012.193, 10.1038/nnano.2012.193]
Wei XX, 2014, AIP ADV, V4, DOI 10.1063/1.4897522
Wu D, 2016, CRYSTALS, V6, DOI 10.3390/cryst6110151
Xie DX, 2024, J APPL PHYS, V135, DOI 10.1063/5.0206006
Xu L, 2019, NANO RES, V12, P1619, DOI 10.1007/s12274-019-2401-0
Ye GL, 2016, NANO LETT, V16, P1097, DOI 10.1021/acs.nanolett.5b04331
Yin KD, 2018, ACS APPL MATER INTER, V10, P28909, DOI 10.1021/acsami.8b10569
Yu ZG, 2015, NANO LETT, V15, P6855, DOI 10.1021/acs.nanolett.5b02769
Yue Q, 2013, NANOSCALE RES LETT, V8, DOI 10.1186/1556-276X-8-425
Zheng XZ, 2022, ACS APPL ENERG MATER, V5, P4475, DOI 10.1021/acsaem.1c04077
Zhou W, 2013, NANO LETT, V13, P2615, DOI 10.1021/nl4007479

Cited Reference Count: 53

Abstract: Layered MoS2 films were synthesized through the CVD technique, and substantial sulfur vacancies were generated by using the swift heavy ion irradiation technique. The SHI-generated sulfur vacancies show an excellent opportunity for varying the optoelectronic properties of the MoS2 films. After 70 MeV Si4+ irradiation at a different fluence, the findings indicate a red shift in the out-of-plane vibration modes (A1g) of the defective MoS2 sheets' Raman spectra. This red-shifting in the A1g phonon mode indicates the systematic tensile strain generation and n-type behavior of irradiated MoS2 sheets, which also influences the work function decrease of the MoS2 film. More precisely, a 0.23 eV decrease in the work function of the 5 x 1013 fluence-irradiated MoS2 films confirms the n-type behavior of defective MoS2. Also, the defect density that provides both radiative and nonradiative active sites for electron-hole recombination may be modulated to influence the photoluminescence (PL) intensity of MoS2; when the defect density increases, the overall PL intensity of the samples exhibits a monotonic reduction. Due to the strain-generated n-type behavior of irradiated samples, the defect-bound negative trions' density improves with ion fluence. Also, the TRPL results show that the surface trapping and interband electron-hole recombination times continuously decrease with fluence. This study enables the systematic defects generation of MoS2, which can be employed for device or light-emitting applications.

Accession Number: WOS:001468612300001

Language: English

Document Type: Article; Early Access

Author Keywords: swift heavy ion irradiation; controlled defect generation; work function; optoelectronic properties; surfaceelectronic properties; exciton and trion conversion

KeyWords Plus: MONOLAYER MOS2; STRAIN; LAYERS

Addresses: [Kumawat, Asheesh; Rawat, Meera] HNB Garhwal Univ, Dept Phys, Srinagar 246174, India.
[Yadav, Aditya; Gupta, Govind] CSIR Natl Phys Lab NPL, Sensor Device & Metrol, New Delhi 110012, India.
[Yadav, Aditya; Gupta, Govind] Acad Sci & Innovat Res, Ghaziabad 201002, Uttar Pradesh, India.
[Kumawat, Kajal] Univ Kota, JDB Govt Girls Coll Kota, Kota 324001, Rajasthan, India.
[Kumawat, Manoj Kumar] Indian Inst Technol Delhi, Dept Phys, New Delhi 110016, India.
[Kumawat, Manoj Kumar] Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.

Corresponding Address: Kumawat, MK (corresponding author), Indian Inst Technol Delhi, Dept Phys, New Delhi 110016, India.
Kumawat, MK (corresponding author), Jawaharlal Nehru Univ, Sch Phys Sci, New Delhi 110067, India.

E-mail Addresses: manumau3322@gmail.com

Affiliations: Hemwati Nandan Bahuguna Garhwal University; Council of Scientific & Industrial Research (CSIR) - India; CSIR - National Physical Laboratory (NPL); Academy of Scientific & Innovative Research (AcSIR); University of Kota; Indian Institute of Technology System (IIT System); Indian Institute of Technology (IIT) - Delhi; Jawaharlal Nehru University, New Delhi

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Rawat, Meera	KHD-7010-2024	

Publisher: AMER CHEMICAL SOC

Publisher Address: 1155 16TH ST, NW, WASHINGTON, DC 20036 USA

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Engineering, Electrical & Electronic; Materials Science, Multidisciplinary

Research Areas: Engineering; Materials Science

IDS Number: 1MP4U

eISSN: 2637-6113

29-char Source Abbrev.: ACS APPL ELECTRON MA

ISO Source Abbrev.: ACS Appl. Electron. Mater.

Source Item Page Count: 10

Funding:

Funding Agency	Grant Number
IUAC-New Delhi	
CSIR-NPL New Delhi	
CRF-IIT Delhi	

The Authors are thankful to IUAC-New Delhi for the SHI irradiation of MoS2 samples. The authors acknowledge CSIR-NPL New Delhi for the PL and TRPL measurements. The authors are thankful to CRF-IIT Delhi (Sonipat Campus) for the AFM and KPFM measurements and acknowledge AIRF-JNU (New Delhi) for the XRD and Raman measurements.

Output Date: 2025-05-06

End of File