



Office of the Principal Scientific Adviser
to the Government of India



Proceedings of the Workshop on

Synergizing Global Efforts to Expand the Access to Scholarly Scientific Knowledge

Organised by



**Research and Innovation Circle of Hyderabad
(RICH)
Hyderabad S&T Cluster**

1. Introduction

In 2017, the Telangana government launched Research and Innovation Circle of Hyderabad (RICH) with the objective of extracting innovations from research labs and commercializing them. In 2020, RICH was entrusted with leading the Science and Technology Cluster for Hyderabad, as part of an initiative led by the Office of Principal Scientific Adviser (PSA) to the Government of India. The primary focus of RICH is to enhance India's scientific and technological (S&T) competitiveness at both national and global levels, fostering innovation and research capabilities that can propel India to the forefront of S&T advancements.

Recognizing the significance of global science and technology, various intergovernmental, regional, and multilateral organizations have been actively engaging in discussions. It is widely acknowledged that science and technology have a crucial role in shaping the future, and addressing cross-border challenges requires international dialogue. With its ability to bring together emerging scientific powers, accounting for around 85% of global scientific knowledge production, the G20 serves as an effective platform for addressing anticipated issues in scientific research, technology development, and deployment.

Under the aegis of G20–Chief Science Advisers Roundtable (G20–CSAR), RICH hosted a workshop titled 'Synergizing Global Efforts to Expand the Access to Scholarly Scientific Knowledge Roundtable' on 5th July 2023 at the International Institute of Information Technology Hyderabad (IIIT-H). The workshop brought together 42 distinguished scientists representing 27 research institutions across various domains.

The afternoon commenced with registration, followed by opening remark from Ms. Rashmi Pimpale, the CEO of RICH. Dr. Arun Bhardwaj, from the Office of the Principal Scientific Adviser (PSA), delivered a thought-provoking keynote address. Additionally, perspective talks by distinguished speakers, Dr. Sudeshna Sarkar from IIT Kharagpur and Mr. Nikesh Gosalia from Cactus Communications, UK, enriched the audience's understanding of the subject matter.

The workshop further facilitated in-depth sub-thematic deliberation sessions, providing participants with a platform to engage in extensive discussions and formulated action plans with the aim of coordinating efforts to achieve open access to scholarly knowledge generated through publicly funded research. The culmination of these discussions led to the presentation of key findings/actionable strategies at the workshop. Dr. Sushmitha Sundar, Head of Life Science at RICH, extended her gratitude in the vote of thanks. The workshop concluded with a High Tea & Networking Session, fostering valuable connections among participants.

This document serves as a comprehensive record of the valuable discussions, insights, and recommendations that emerged from this significant workshop. RICH expresses its sincere appreciation to all the participants and contributors who played a pivotal role in making this workshop a resounding success.

2. Opening remarks by Ms. Rashmi Pimpale, Chief Executive Officer, Research and Innovation Circle of Hyderabad (RICH)

Ms. Rashmi Pimpale warmly welcomed participants to the side event of the G20 CSAR. She talked about RICH and its areas of work. She further explained the significance of the workshop (event), which was focused on synergizing global efforts to expand access to scholarly scientific knowledge. She also highlighted the topics that were going to be discussed, such as open access, journal subscription charges, and interoperability of repositories and archives, which have garnered immense attention among G20 nations. In an era of remarkable advancements in science and technology, open access to scholarly knowledge has become pivotal for growth, progress, innovation, and sustainable development. Dissemination of this knowledge is crucial for bridging research gaps and unlocking new perspectives.

Acknowledging the rapid pace of advancements coupled with the digital revolution, Ms. Pimpale emphasized the importance of collectively voicing opinions and reaching relevant authorities. She expressed gratitude to all participants for their presence and active engagement, highlighting their commitment to fostering an inclusive and equitable knowledge-sharing landscape. Ms. Pimpale encouraged each participant to contribute actively, drawing from their experiences and insights, to enrich the discussions.

Ms. Pimpale's speech set a positive tone for the workshop, emphasizing collaboration, the significance of open access to scientific knowledge, and the collective effort to shape a vibrant research and innovation ecosystem.

3. Keynote address by Dr. Arun Bhardwaj, Scientist 'F', Office of Principal Scientific Advisor (PSA), Government of India

Dr. Arun Bhardwaj, from the Office of the Principal Scientific Advisor (PSA), delivered a speech highlighting the significance of the G-20-CSAR (Chief Scientific Advisors Roundtable) in promoting global collaboration and expanding access to scholarly scientific knowledge. He emphasized four key themes driving the agenda: One Health for disease control and pandemic preparedness, global efforts to expand access to scientific knowledge, diversity and inclusion in science and technology, and institutional mechanisms for global policy dialogue. Dr. Bhardwaj acknowledged the challenges but expressed optimism that through collaboration, barriers can be overcome to ensure the free flow of scientific knowledge worldwide.

In his concluding remarks, Dr. Bhardwaj called for a future where access to scholarly scientific knowledge is not limited by geography or economic constraints. He encouraged active participation and sharing of insights to develop practical strategies for expanding accessibility and dissemination of scientific knowledge. The speech highlighted the commitment of the Office of PSA to breaking down barriers, fostering inclusivity, and advocating for collaborative efforts to ensure that no one is left behind in the pursuit of knowledge.

4. Industry perspective insights

Mr. Nikesh Gosalia, President - Global Academic & Publisher Relations, Cactus Communications, United Kingdom.

In his speech, Mr. Nikesh Gosalia discussed several key trends and challenges in the research and publishing industry. He highlighted the significant difference in terms of spending, number of researchers, and published articles between different regions, emphasizing the need to bridge this gap. He identified the lack of R&D investments as one of the reasons for this divide. He emphasized the importance of addressing the diversity and equality challenges faced by academic publishing, particularly for researchers from the Global South. By breaking the glass ceiling for these researchers, the scholarly landscape can become more inclusive and equitable.

Mr. Gosalia also mentioned the growing importance of open access (OA) publishing. He told that by 2025, it is expected that 44% of all journal articles would be available as open access. Many global publishers and academic societies had committed to achieving 100% open access in the coming years. However, there are challenges such as improving content quality, dealing with predatory publishers, and balancing article processing charges (APCs). He called for collective attention to find solutions that ensure Open Access remains accessible, affordable, and sustainable for researchers worldwide.

Mr. Gosalia acknowledged the significance of pre-prints in the publishing ecosystem but stressed the need to understand their limitations. By addressing these limitations, researchers can maximize the benefits of pre-prints while maintaining research integrity.

Mr. Gosalia also highlighted the strain on the peer review system and the need for research integrity. He urged the audience to embrace digital transformation as a solution to the increasingly strained peer review system. Leveraging AI technology, certain technical checks can be automated, peer reviewers can be identified and assigned more efficiently, and journal submissions can be automated.

Overall, his speech emphasized the industry's efforts to bridge regional disparities, promote open access, address challenges in content quality and peer review, and harness the potential of AI in research and publishing.



5. Academia perspective insights

Dr. Sudeshna Sarkar, Professor, Computer Science & Engineering Department, IIT Kharagpur, India

Dr. Sudeshna Sarkar delivered a speech on the importance of synergizing global efforts to expand access to scholarly scientific knowledge. She emphasized that science is crucial for addressing complex challenges such as climate change, pandemics, and food security. In the knowledge revolution era, science plays a central role in finding solutions and driving economic growth.

Dr. Sarkar highlighted the need for global cooperation and the removal of barriers to scientific advancement. She called for a fully inclusive approach to knowledge, economy, and science. It is essential to direct scientific research towards addressing the most important global issues, ensuring that scientific work benefits society as a whole.

The speaker stressed the importance of inclusivity and access to scientific work. Everyone should have the opportunity to publish and access scientific knowledge. The fruits of scientific endeavours should be available to various stakeholders, including industries and the general public. Diverse perspectives should be encouraged, and no one should be disadvantaged due to resource limitations.

Dr. Sarkar raised concerns about the current model of science production and dissemination. While scientists contribute significantly, they often don't get monetary benefits while publishers make substantial profits. She advocated for scientists, policymakers, and funding organizations to have a stake in the production and dissemination of scientific knowledge.

Access to previous scientific work was emphasized as vital for accelerating scientific discovery. Open access to scientific articles and transparent publication processes lead to responsible science and trustworthy research. However, commercial companies largely control science publication and dissemination, creating barriers to equitable access and restricting the dissemination of scientific knowledge.

Dr. Sarkar highlighted the digital infrastructure required to support digital publications and AI-driven tools. Despite the expectation of reduced costs, academic institutions still face high subscription fees or article processing charges, hindering equitable access to knowledge. This disparity may lead to the under-representation of certain regions or researchers lacking resources. Additionally, copyright agreements signed by scientists limit their control over the dissemination of their own work.

In order to advance science, Dr. Sarkar called for immediate access to scientific work, equitable article processing charges, inclusive and fair practices, open peer review, and multilingualism to ensure accessibility for all stakeholders.



6. Sub-thematic insights

6.1. Sub-Theme-1 - Access

6.1.1. Objective:

Insights to build free, immediate, and universal access to peer-reviewed research articles and scholarly publicly funded research publications.

6.1.2. Introduction

In the Indian context, various open access models were defined and then the group discussed on the same.

6.1.2.1. Repository-based or Green open access

Green open access refers to the practice of depositing the author's accepted version of a published work into a subject-based repository or an institutional repository. This approach involves making preprints and author accepted manuscripts freely available for publication and reading, creating an open and accessible repository.

6.1.2.2. Journal-based or Gold Open Access

Gold open access refers to the practice of publishing in a scholarly journal that offers complete open access. In such journals, the publisher ensures that the full content of the journal, including the final published versions of articles, is freely and immediately accessible online. These articles are typically accompanied by a Creative Commons License, which specifies the permissible uses of the content. Various business models exist for this type of open access. Some publishers charge an article processing charge (APC), which can be covered by the author's institution, funding body, or individual researcher. APCs may also be covered through transformative agreements. The Directory of Open Access Journals (DOAJ) maintains a comprehensive list of open access journals.

6.1.2.3. Diamond Open access

Diamond open access pertains to journals that embrace open access principles by offering free access for readers and authors alike. These journals are frequently nurtured by communities and receive support from institutions or national/regional infrastructure.

6.1.2.4. Hybrid open access

Hybrid open access refers to the practice of paying an article processing charge (APC) for an individual journal article to be made openly accessible within a subscription-based journal. This approach always involves an APC, which is typically higher compared to fully open access journals.

6.1.2.5. Bronze open access

Bronze open access refers to a journal article that is freely accessible but lacks an open license, thereby falling short of being considered fully open access.

6.1.2.6. Delayed open access

Delayed open access journals are conventional subscription-based journals that offer free online access after a specified embargo period following the initial publication date.

6.1.3. Deliberation insights:

6.1.3.1. Preferred Open access model

The group reached a consensus that the green open access model is preferable. They proposed the establishment of a central repository for green open access publications, potentially under the umbrella of the National Research Foundation (NRF), which would be formed by a consortium of research entities like DST, DBT, CSIR, ICAR, and others or platform like National Knowledge Network (NKN) linked to Vidwan portal. Additionally, to encourage, institutions to maintain data repositories, they suggested linking accreditation to publication policy / universal repository policy.

The group proceeded to discuss the advantages and disadvantages of the green open access model. They acknowledged the advantages of having preprints and author accepted manuscripts freely accessible, facilitating the referencing and advancement of scientific research. However, they also recognized a potential limitation in cases where research is intended for commercial applications, as it may restrict the unrestricted availability of scientific information. Furthermore, they identified challenges related to plagiarism and unethical practices that could impact the ownership and integrity of scholarly work.

6.1.3.2. Alternative Open access models

The group also expressed their view that the gold open access model could effectively ensure the required level of quality. However, they highlighted a significant challenge posed by the high article processing charges (APCs) that may discourage authors from publishing in open access journals. To address this specific challenge, the group proposed the inclusion of a dedicated budget line item in research grant funds provided by funders. This allocation would be specifically designated for covering publishing costs in open access journals post the closure of the research fund, facilitating wider adoption of the gold open access model.

The group also emphasized the importance of compiling and evaluating a list of high-quality open access journals, which could include references to the Directory of Open Access Journals (DOAJ) or institutional lists. This measure aims to discourage authors from publishing in predatory journals and promote responsible publishing practices.

Furthermore, the group expressed their view regarding the "One nation one subscription" (ONOS) initiative proposed by the Government of India (GoI). This initiative aims to facilitate widespread access to both national and international scientific and academic content across the country. The group recognized ONOS as an important and beneficial initiative. They also engaged in discussions regarding cost models that could effectively reduce subscription expenses at the institutional level. Additionally, the group explored strategies to leverage the negotiation power of national entities when dealing with subscription journals, with the goal of obtaining more favourable terms.

6.1.3.3. Open access publishing awareness

The group reached a consensus that there is a lack of awareness about open access publishing within the research community. They emphasized the importance of implementing institutional-level courses for PhD students and new faculty members to address this issue. Furthermore, they proposed the inclusion of a chapter on open access publishing in the NET examination. The group also suggested several other methods to promote regular awareness, such as incorporating open access publishing modules in Massive Open Online Courses (MOOCs) through platforms like Integrated Government Online Training (IGOT). They further recommended including mandatory orientation sessions on open access publishing as part of the promotion policy prerequisites established by the Ministry of Human Resource Development (MHRD).

To ensure publication quality, the group emphasized the need for a rigorous and reliable peer review system. One of the suggestions put forth was to include the participation of scientists in the peer review process as part of their performance evaluation. This would encourage expert researchers to actively engage in the peer review process and contribute to maintaining high standards of publication quality.

6.2. Sub-Theme-2 - Data Repository

6.2.2. Objective

To provide a centralized platform for researchers to store, manage, and share their research data, promoting accessibility, transparency, and collaboration. By ensuring long-term preservation and facilitating data citation, repositories contribute to the integrity, reproducibility, and discoverability of scientific research.

6.2.3. Introduction

In the Indian context, data repositories play a vital role in the storage, access, and sharing of research articles. They provide a centralized platform for researchers in India to deposit their scholarly works and contribute to the global scientific community. Two types of manuscripts, namely the Accepted Author Manuscript and the Version of Record, are typically deposited in national repositories.

6.2.3.1. Accepted Author Manuscript

The Accepted Author Manuscript refers to the version of a research article that has undergone peer review and has been accepted for publication without any formatting by the publisher. This version represents the final manuscript as written by the authors, incorporating revisions suggested during the peer review process. It is a valuable contribution to the national repositories.

6.2.3.2. - Version of Record

The Version of Record is the published version of the manuscript that includes formatting and typesetting by the publisher. This version represents the final, official version of the research article that appears in the journal or publication. It reflects the enhancements made by the publisher and is important for comprehensive knowledge sharing.

6.2.3.3. Inter-linking of National Repositories in India and G20 Countries

Inter-linking national repositories with those of other G20 countries holds significant value. It enhances the visibility, accessibility, and impact of Indian research on a global scale. By facilitating international collaboration and knowledge exchange, this initiative promotes India's research capabilities and contributes to the advancement of science and innovation in the country.

6.2.4. Deliberation Insights

6.2.4.1. Integration of "One Nation One Subscription" with existing Open Access journals

During the discussion, participants explored how "One Nation One Subscription" could integrate with existing Open Access journals. They suggested that integration could be achieved by establishing partnerships and collaborations with Open Access publishers and journal platforms. By working closely with these entities, a coordinated system can be developed that allows researchers and institutions to access Open Access articles seamlessly without additional costs. This integration would ensure that Open Access content is included within the subscription model, providing a comprehensive pool of scholarly publications for researchers and promoting wider knowledge dissemination.

6.2.4.2. - Layered Approach to Data Access

The participants stressed that the implementation of a layered approach to data access within the One Nation One Subscription framework may offer a flexible and nuanced solution. By categorizing data repositories into different tiers, researchers can access information at varying levels of openness. For instance, some data may be freely available for public use, fostering collaboration and knowledge sharing. Other datasets may require registration or a subscription to access, ensuring proper attribution and control over sensitive or proprietary information. This stratified approach strikes a balance between open access and the protection of intellectual property, enabling researchers to navigate the complexities of scholarly publishing while maintaining transparency and fairness.

6.2.4.3. - Inter-linking of national repositories among G20 countries

In terms of inter-linking national repositories among G20 countries, participants recognized that it could facilitate seamless global sharing of knowledge and scholarly publications. They highlighted several considerations that need to be addressed for successful implementation. Technically, the repositories should be designed to be interoperable, allowing for standardized formats, metadata, and protocols for data exchange. Logistically, efficient mechanisms for data transfer and synchronization between repositories should be established to ensure timely updates and the inclusion of new publications. Furthermore, policy considerations should focus on harmonizing intellectual property rights, data privacy regulations, licensing agreements, and data usage norms to enable international collaboration and data sharing while upholding legal and ethical boundaries.

6.2.4.4. - Ensuring interoperability of connected repositories among G20 countries

To ensure interoperability of connected repositories among G20 countries and establish common publication and research evaluation practices, participants suggested several measures. They highlighted the importance of developing standardized formats for metadata and data representation to enhance interoperability. This includes adopting common data protocols and technology platforms, such as the Open Science Framework (OSF) or similar frameworks, to ensure compatibility and seamless integration between repositories.

Additionally, establishing clear guidelines and criteria for publication and research evaluation can promote consistency and transparency in the assessment of scholarly outputs. Participants also discussed the potential role of a committee or consortium that evaluates journals based on quality, turnaround time, and impact. Implementing these measures can set a global precedent, encouraging other countries and regions to adopt similar practices and contributing to the reduction of global knowledge asymmetries.

6.2.4.5. - Various data repositories for open access publishing in public-funded research

During the discussion, participants deliberated on the various data repositories available for open access publishing in public-funded research. They acknowledged the importance of repositories like ICSSR (Indian Council of Social Science Research), CERA (Crop Experimental Repository and Archive) an initiative led by ICAR (Indian Council of Agriculture Research), KrishiKosh and open government portals in providing valuable resources for researchers in specific domains.

However, participants also emphasized the need for further expansion of data repositories, particularly in social sciences and other disciplines. They suggested that efforts should be made to include data collected from public-funded research projects in a thematic fashion. By creating a centralized platform that facilitates easy access and dissemination of research findings, researchers would benefit from comprehensive access to data and maximize the impact of public-funded research. It was also suggested that these repositories should adhere to standards of data integrity, privacy, and open access principles to promote transparency and ensure the effective utilization of public-funded research outputs.

6.3. - Sub-Theme – 3 - Quality

6.3.1. - Objective

Evolve a methodology for research evaluation considering holistic contributions of researchers in terms of the merit of the work and societal impact and other factors also, independent of the venue of publication.

6.3.2. - Introduction

The outputs from scientific research are diverse. The scientific community – scientists, institutions, and funding agencies – need to be supported with tools or platforms to assess quality and impact of scientific outputs. It is important to make publicly funded research output and resources available to all to foster learning and innovation and contribute towards the development of basic and applied science. Common publication and research evaluation practices will also help in addressing the ever-growing global knowledge asymmetries.

The Open Science concept aims to foster more equitable participation in science through increasing access to research outputs, more transparency and accountability in research, inclusiveness, better resource utilization through minimal restrictions on the reuse of research outputs and infrastructure and ensuring constant exchange of knowledge between producers and users of knowledge.

The assessment process, therefore, has a key role in achieving interoperability of connected repositories among G20 countries.

6.3.3. - Deliberation Insights

6.3.3.1. - Merit oriented Research

Assessing the merit of the research output needs to be reviewed considering the challenges faced by society. The evaluation metrics need to evolve a new set of weightages based on areas of societal concerns such as climate change, energy conservation etc. Social impact scope differs for basic and applied research outputs. Basic science research typically has a longer-term impact, whereas applied science research yields more immediate benefits. Hence it needs to be evaluated as such given the time involved in taking the research to the market.

6.3.3.2. - Multi-disciplinary approach to Research

Researchers predominantly publish their work in journals more prominent in the global North that tend to lean to research domains of interest for those countries. A multi-disciplinary approach to research is therefore needed that would require a rethink on accessibility, privacy, and services available for such geographies. The group opined that research leading to intellectual property (IP) and economic value and growth is a good metric to be considered. It is crucial to assess whether a research study has a direct or indirect impact on society.

Currently, the dissemination of research findings occurs through print and electronic media that lacks proper verification measures. Researchers need to communicate to non-scientific community while promoting their research outputs. Another area the group felt as an impact assessment parameter was to examine if the research led to adoption of new technologies or collaborations through Public, Private, Partnership (PPP) mode for societal interventions. Further, interactions with stakeholders (identified for the research) and showcasing its reach to the market could be another parameter.

6.3.3.3. - The need for pre-publication

Citation scores can vary across different sectors. To evaluate the societal impact of research, studies could be categorized based on their direct influence, enabling a more nuanced assessment. The pre-publication process should be reviewed, considering parameters such as social impact (direct/indirect), research domain, geography, purpose of technology, and scalability to the market. Introducing a grading system for this process can facilitate better categorization and evaluation.

The group strongly rejected the Open Access portals for its lack of depth and declining research quality. However, the group felt that utilizing platforms like ResearchGate (professional network for scientists and researchers), arXive (a free distribution service and an open-access archive) can enhance credibility, viewership and feedback/comments for the research, protect IP of the research, and assess the quality of the publication. Quality checks on Open Access can address some of its concerns. These platforms can also provide insights into research popularity and the audience following specific topics.

6.3.3.4. - Recommendations from the group

Evaluation metrics for research outputs should be derived based on Sustainable Development Goals (SDGs) or National Mission Goals. This approach would enable the assessment of the impact of research on societal issues and its contribution to socio-economic development.

Implementing pre-publication checks that facilitate categorization of research in basic/applied categories, segments, geography, etc., would assist researchers in deciding on the appropriate nature of publication.

Science communication should focus on social impact, policy implications, and the practical applications of research output. Training the scientific community in effective science communication is vital, given the influence of social media, which often disseminates claims without proper context or verification. Establishing an expert inter-disciplinary research committee to evaluate open access platforms and research quality. This committee could include researchers and scientists from various domains and institutions.

The research impact methodology should be blind to impact factors for Open Access platforms and other publications, emphasizing the intrinsic value of research.

Creating a unified publication platform would benefit from a well-defined framework with established metadata and data management policies. This framework can draw guidance from the [DORA Declaration](#).

About DORA Declaration

The DORA Declaration refers to the San Francisco Declaration on Research Assessment, commonly known as DORA. It is a set of recommendations and principles aimed at improving the assessment of scholarly research outputs, particularly the use of journal-based metrics like journal impact factor for evaluating the quality and impact of research.

DORA emphasizes the need to shift away from the overreliance on journal-based metrics and encourages the adoption of more comprehensive and diverse evaluation methods that consider the intrinsic merits of research and its societal impact. The declaration calls for fair and responsible research assessment practices that focus on the content and quality of individual research articles rather than the prestige of the journals in which they are published.

By signing the DORA Declaration, institutions, funding agencies, publishers, and researchers commit to promoting and implementing more effective and equitable research evaluation practices. The goal is to create a research environment that fosters innovation, collaboration, and the advancement of knowledge, rather than solely relying on narrow metrics that may not capture the true value and impact of research.

Key points of DORA

1. **Shift from journal-based metrics:** DORA urges a move away from using journal-based metrics, such as impact factor, as the primary measure of research quality and impact.
2. **Focus on research content:** DORA emphasizes evaluating research based on its intrinsic merits, considering the content and quality of individual research articles rather than the prestige of the journals in which they are published.
3. **Use diverse indicators:** DORA encourages the adoption of a broad range of indicators to assess research impact, including qualitative assessments, data availability, and societal contributions.
4. **Avoid misuses of metrics:** DORA discourages inappropriate uses of metrics for hiring, promotion, and funding decisions, emphasizing that metrics should not be the sole or dominant factor in research evaluation.
5. **Promote responsible assessment:** DORA advocates for responsible research assessment practices that consider the broader impacts and outcomes of research, supporting innovation, collaboration, and diversity.

7. Conclusion

The workshop organized by RICH under the aegis of G20-CSAR offered valuable insights and recommendations that can be translated into actionable strategies and plans for synergizing global efforts to expand access to scholarly scientific knowledge. The identification of the green open access model as the preferred approach suggests developing specific policies and initiatives to encourage researchers to deposit preprints and author accepted manuscripts in repositories, thereby promoting open access publishing.

Moreover, the emphasis on evaluating research based on societal impact and adopting a multi-disciplinary approach can be incorporated into actionable strategies, ensuring that research outcomes address real-world challenges and benefit society.

Additionally, aligning evaluation metrics with the Sustainable Development Goals (SDGs) and National Missions will provide a framework for measuring the contribution of research to national and global sustainability efforts. The establishment of a unified publication platform can streamline access to scientific knowledge and facilitate collaboration among researchers worldwide.

Using these recommendations and insights from the discussions, the research community can look to expand access to scholarly scientific knowledge and foster global collaboration for the advancement of society.





Annexure 1: Participant List

Institution	Name of representative
CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad	Dr. Somdatta Karak
Centre for Development of Advanced Computing (C-DAC), Hyderabad	Dr. Vijaylakshmi
Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad	Dr. Abhijit A. Sardesai
Centre for Materials for Electronics Technology (C-MET), Hyderabad	Dr. Raghu C Reddy
	Dr. Sandeep Mahajan
Defence Metallurgical Research Laboratory (DMRL), Hyderabad	Dr. Mithun Palit
	Dr. S. Shashinath
ICAR-Indian Institute of Oilseeds Research (IIOR), Hyderabad	Dr. G.D.Satish Kumar
	Dr. Chunduri Sarada
ICAR-Indian Institute of Rice Research (ICAR-IIRR), Hyderabad	Dr. R. Mahender Kumar
	Dr. M.B.B. Prasad Babu
ICAR-National Meat Research Institute (IIMR), Hyderabad	Dr. Naveena B. Maheswarappa
The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad	Dr. Sreenath Dixit
	Dr. Rakesh Srivastava
The CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad	Dr. Sreelatha Sanakkayala
	Dr. Shaileja D



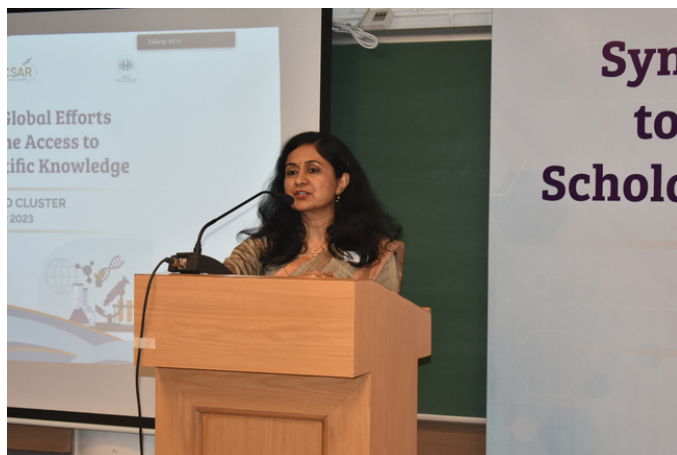
Annexure 1: Participant List

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	Prof. Dr Anandarao Suvvari
International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad	Dr. Sanjay Bhardwaj
L V Prasad Eye Institute (LVPEI), Hyderabad	Ms. Manvi Sharma
NALSAR University of Law, Hyderabad	Mr. Sourabh Bharti
	Mr. M. Praveen
National Institute of Agricultural Extension Management (MANAGE)	Dr. Venkateshwar Rao Kasina
National Institute of Animal Biotechnology (NIAB)	Dr. Sonu Gandhi
National Remote Sensing Centre (NRSC)	Dr. K.V. Ramana
	Dr. Naresh Kumar M
Nuclear Fuel Complex, Department of Atomic Energy (NFC), Hyderabad	Shri S N V M S Gupta
	Shri Swarup Acharya
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National Institute of Technology (NIT), Warangal	Prof. Ravi Kumar Puli

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University of Hyderabad (UoH), Hyderabad	Prof. Rajashekhar Bellamkonda
	Prof. Ashwani Nangia
International Institute of Information Technology (IIIT-H), Hyderabad	Dr. Vinit Gandhi
	Dr. M. Krishnan
Jawaharlal Nehru Technological University (JNTU), Hyderabad	Dr. Chandrima Roy
	Dr. Bhramara
	Dr. V. Himabindu

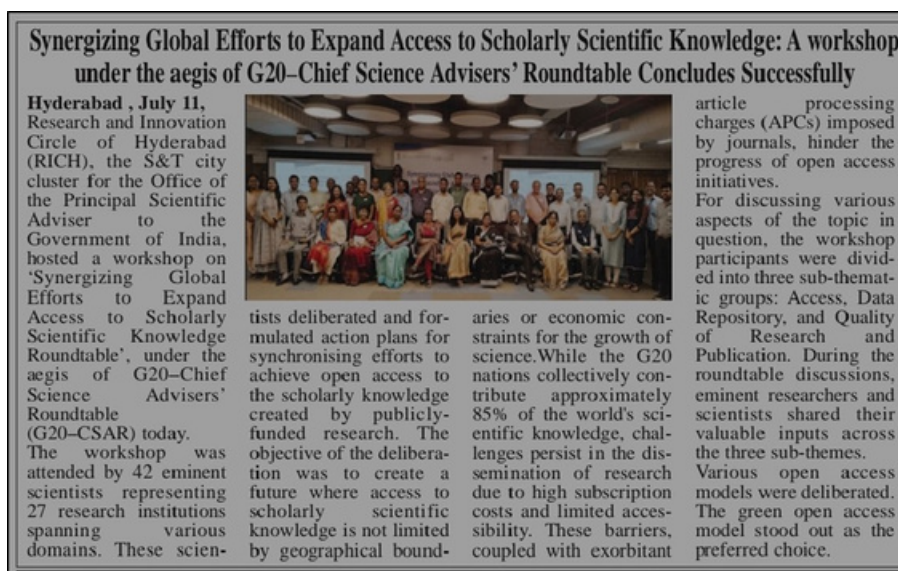
Annexure 2: Photographs



Annexure 2: Photographs - Roundtable Discussions



Annexure 3: Media Coverage





Office of the Principal Scientific Adviser
to the Government of India



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