

### Webinar on “Science Sources : Where to Find Them and How to Vet Them”

The webinar on “Science Sources: Where to Find Them and How to Vet Them”, held on April 15, 2021, was organised by Massachusetts Institute of Technology, USA with three well known science journalists.

First speaker was Melinda Wenner Moyer, a science journalist and author based in the Hudson Valley New York. She had previously been an adjunct assistant professor of journalism at the CUNY Graduate School of Journalism. She is a now contributing editor at Scientific American and a regular writer for the New York Times, Mother Jones, Nature, Discover, Popular Science. She is recipient of several awards for science writing and medicine, and her work has been featured in best American science and nature writings.

Melinda spoke on “Finding and vetting science sources”. She clarified why sources are so important. A lot of writers and editors who are covering science do not necessarily have expertise in the exact area of science they’re covering and so don’t necessarily know just how important or robust a particular finding might be. That is why sources are so valuable for they can give them the context that they need to figure out just how newsworthy a particular finding is and whether actually it is newsworthy i.e. whether it’s worth covering or not. Sources are so important, of course, for shaping and creating narratives and stories e.g. like this year while writing about the pandemic, there are so many reasons to have real people in their stories who’ve been affected by COVID-19 and those stories are so important for bringing science to life. Also sources are extremely important for bringing humanity to science. Melinda said “Sometimes the public thinks of science as kind of an indifferent, like clinical endeavour that is devoid of emotion. But of course, scientists are people too and they bring to their work their perspectives, their histories, their biases, as well. And, you know, their desires, their needs all of these things go into science as well and so our sources can really help bring science to life for our audience”.

Melinda stressed on the point that if an important finding is published in any paper, the duty of the science

journalist covering this item is to talk with the first author of the paper as he/she has done the major research and also the last author who is generally the senior author, who has overseen the research in some way. They can be reached through email of the corresponding author and rechecked through Google about their name, affiliation and contact details. Also from the reference section of the paper, relevant papers that have been covered, similar issues in the past or papers that describe the similar phenomena can be looked upon. So this just illustrates the power of good sourcing. Further use of science databases like PubMed, Scopus, ScienceDirect, JSTOR, PsycINFO (Social Sciences), IEEE explore (engineering and computer science) and DOAJ (Directory of Open Access Journals) and sometimes Google searches as sources are very important.

The second speaker was Roxanne Khamsi, an independent science journalist based in Montreal, who has been publishing articles in The New York Times, The Economist, Popular Science, Scientific American, Slate, Nature, New York magazine, WIRED magazine and National Geographic. She has received wide recognition and her writings have been featured on television and radio programs. Roxanne earned her degree in biology from Dartmouth College, with a concentration in genetics and has taught health reporting and science communication at Stony Brook University’s Alan Alda Center and at CUNY Graduate School of Journalism. For more than a decade, Roxanne served as Chief News Editor at Nature Medicine and as an online reporter for New Scientist.

Roxanne spoke about using social media to find great sources. She insisted on using Twitter, LinkedIn, Instagram, Facebook, YouTube, TikTok, Snapchart, Reddit, etc for finding sources in addition to the traditional methods mentioned by Melinda. She mentioned that when she was writing a feature on medical foods for Phenylketonuria (PKU), an inborn error of metabolic disorder, where new born don’t metabolize the amino acid phenylalanine, she wanted to find an adult with PKU for interview but it was very difficult to find one. However, she found a young lady making some videos on YouTube to share her experience with PKU and she wrote the News feature entitled “Rethinking the Formula”, which was well

appreciated by readers . So You tube sometimes help in finding sources where one can find the patients and understand their stories and then explore topics to find lectures with articulate scientific sources and verify them on PUBMED.

Roxanne gave another example of using social media like Facebook to find sources. She was looking for people who kept testing positive for COVID, many weeks out from their first positive test. It was a kind of a mystery and a very rare thing that was happening. It was so difficult to find somebody in that situation and so she posted in Facebook and then that same day, she got response from one lady. She talked with her and then with a bunch of scientists and came up with a story “ The Mystery of why some people keep testing positive for COVID-19”, where she highlighted not only the science but also the struggle of the patient affected till she gets a negative report. Finally, she concluded her talk with a note to supplement traditional media with social media by finding persons to share their stories and use LinkedIn and Instagram though specific Hastags to narrow the search and identify correct person.

The third speaker was Wudan Yan from Seattle, an independent journalist covering science and society. Her work has appeared in California Sunday magazine elemental Harper’s and MIT Technology Review and National Geographic New Yorker, New York Times. She had been pursuing doctoral degree in cancer biology but decided to shift from academia to journalism.

Wudan spoke on “ How to feature diverse voices in our story”. She said “ why to think about diversity in your stories, but also how to ensure you get diverse experts. So the first question I think we should address is, why should we even care to implant diverse sources, as reporters, I think we have an obligation that our stories reflect reality. And the reality is that we live in a country and world that is incredibly diverse. So I think this goes to show why it’s important to highlight diverse patient stories, diverse communities, etc”. She also insisted in merging traditional media with social media and use the same to get diverse opinion from different sources.

The webinar was attended by participants from all over the world and ended with brief question answer session. □

**Amit Krishna De**  
*Advisor, Formerly, Executive Secretary, ISCA*  
*e-mail: amitkde\_2000@yahoo.com*

## **Strategies for Promotion of Biofortified Crops in India**

The Webinar entitled ‘Strategies for Promotion of Biofortified Crops in India’ was organized by National Institute of Agricultural Extension Management (MANAGE), Hyderabad on 18/3/2021. In the introductory note, Dr (Mrs.) V. Kumari, Dy. Director, Gender Studies in Agriculture, MANAGE emphasized on biofortification as an answer towards meeting food and nutritional security of country’s population (slum dwellers, daily wage earners, small holder farmers, etc) and achieving the ambitious goals of ‘Doubling farmers’ income by 2022’ and ‘Eradication of hunger by 2030’. Dr P. Chandra Sekhara, Director General, MANAGE spoke about creating awareness about biofortified crops; participation of ATMA officials & functionaries, Farmer-Producer Organizations, agripreneurs, agri-startups in its popularization; convincing and sensitizing farmers; strengthening marketing channels; different strategies needed in taking the technology to farmers in different agro-climatic zones in Indian villages; importance of designating ‘Certified Biofortified Farmer’ in every state.

Dr D. K. Yadava, ADG (Seeds), Crop Science Division, ICAR, New Delhi while speaking on ‘Biofortification: a sustainable way to alleviate malnutrition’ discussed about the status of malnutrition in Indian scenario; commercial fortification, medical supplementation, dietary diversification and biofortification and that last one has high bioavailability, reaches target people in pure form. In feeding the increasing population, crop production has increased but emphasis to be given on food quality; quantity and quality-wise sustainability in food production. ICAR Coordinated Research Project on Biofortification running in 35 centres in India with the traits being Beta-carotene, Fe, Zn, protein, folic acid, low phytate and gluten to be improved in rice, wheat, maize, sorghum, potato, pearl and small millets, etc. Hon’ble PM dedicated 17 biofortified crop varieties to nation in 2020 among 71 biofortified varieties developed and released by ICAR. Dr Yadava further discussed about ICAR products viz., rice with 25.2ppm Zn (12-16ppm in conventional variety); rice Mukul with 20ppm Zn and 11% protein; wheat Pusa Tejas with 12% protein and 42.8ppm Zn (normal 32ppm); high Vitamin-A maize hybrid; biofortified lentil varieties; Beta-carotene rich cauliflower variety; pomegranate with 2-3times enhanced Zn and Vit-A content; biofortified sweet potato; high Fe pearl millet hybrids; anti-nutritional factor free variety of mustard; Kunitz Trypsin inhibitor free soyabean. He elaborately spoke about the beneficial effects of

biofortified crops developed by ICAR in children and farmed animals/birds. He then demonstrated how improved levels of protein, Zn, Ca, Fe, provitamin-A, Vit-C, lysine, tryptophan were significantly achieved over baseline in various food and horticultural crops. Biofortified varieties have been licensed to various private seed companies and FPOs.

Dr (Mrs.) V. Kumari spoke on 'Biofortified crops for human health and nutritional security'. She nicely explained the current global status in terms of population involved in 'hunger' category (food with insufficient kilocalories and nutrients); 'hidden hunger' (food with sufficient kilocalories but insufficient nutrients); 'healthy' (food with sufficient kilocalories and nutrients); 'overweight' (food with insufficient nutrients and excess kilocalories). Potato with improved protein and carotenoid-enriched, insulin promoting rice, canola with Beta-carotene, rice rich in Vit-E and Beta-carotene can be produced for our country's population. Biofortification, one of multiple strategies in ending hidden hunger, is done in crop/field by means of selective breeding and genetic modification (engineering); which have better agronomic characteristics and higher nutritional concentration. Dr Kumari also spoke about the demonstrated impacts of biofortified crops in improving Vit-A and Zn concentration in children and women in different countries; Golden Rice produced in India is a new way to address Vit-A deficiency; impact of Fe and Zn-rich rice in women/children.

Dr B. Cherian, Country Manager, India, HarvestPlus (HP; part of CGIAR Research Programme) in his talk stated that deficiencies in micronutrients (Zn, Fe, Vit-A) can lead to blindness, stunted growth, mental retardation, learning disabilities. He defined biofortification as 'a process of developing nutrient-dense (bioavailable) staple food crops that are higher in yield and with farmers' preferred traits, that can make measurable health impact'; it can tackle hidden hunger, it is cost-effective rural approach and sustainable. He discussed about biofortification process as 'Discovery' (identifying target population and crops, setting nutrient target levels, screening germplasm and gene discovery); 'Development' (breeding and improving crops, evaluating crop performance, evaluating nutrient retention in crops and food, evaluating nutrient absorption/impact on health); 'Dissemination' (promoting new varieties and delivering products, promoting consumption of micronutrient-rich crops). It is in partnership with social scientists, plant breeders, economists, marketing/extension professionals and nutritionists. Biofortified crops have been developed by HP for pearl millet, beans (all rich in Fe); wheat, rice, maize (rich in Zn); sweet potato, cassava, maize

(rich in Vit-A). During 2010-2013, such crop varieties released by HP worldwide are Iron Pearl Millet (IPM), Zinc Rice, Vitamin A Cassava, Iron Bean (IB), Zinc Wheat (ZW) and Vitamin A Maize (VAM). HP focuses on micronutrient density as core trait in crop breeding, targets for delivery of IPM and ZW in Uttar Pradesh (UP), Rajasthan, Maharashtra, Karnataka and UP, Bihar respectively.

Sri R. Grover, Global Programme Lead, Commercialization of Biofortified Food Crops, HP in his talk elaborated on state and causes of 'hidden hunger' worldwide; emphasized on addressing it with biofortified crops; stated that it is not food shortage but it is malnutrition which is causing problem in India, hidden hunger is persisting on the ground. In order to boost our immunity system, it is necessary to incorporate Zn into the diet plan. Here lies the importance of integrating micronutrients as our dietary supplementation. One out of every four children globally suffers from stunting and Zn deficiency is the major cause. Vit-A is required for our optimum vision health. COVID-19 induced lockdown in India has affected a large population to face nutritional insecurity whose livelihood depends on cheap staple foods.

Sri Grover spoke on the strategies for taking into consideration the biofortified seeds (whole grains) to produce nutrient enriched crops. Published research upholds that Zn biofortified crops reduce stunting and risk of diarrheal diseases; Fe biofortified crops reverse iron-deficiency related to anaemia. Biofortified crops developed by HP are value-added, non-genetically-modified, can inspire trained youth agro-entrepreneurs. IB, VAM and Vitamin A Sweet Potato are also drought-tolerant. From one of Sri Grover's presentation slides, we came to know that eminent agriculture scientist and former Vice-President of ISNA Prof. M. S. Swaminathan has endorsed biofortification as a nutrition strategy and once mentioned: *"Our aim should be to make every family farm a biofortified farm - a food-based approach should be adopted for overcoming micronutrient malnutrition"*. □

**Subrato Ghosh**  
**Fishery Extension Officer,**  
**Directorate of Fisheries, Government of WB**  
**e-mail: subratoffa@gmail.com**

## **Report on National Research Workshop on "How to write and Publish"**

Two days Online National Research Workshop on "How to write and Publish" held on May 6-7, 2021, was

organized by Department of Commerce and Management, Truba Group of Institutes, Bhopal in technical collaboration with The Global Association of Social Sciences and The International Research Journal of Social Sciences and Humanities. The workshop was held online through YouTube Live platform.

Truba Group of Institutes is a renowned name in the field of technical and professional education in the central region of India, having located in Bhopal in Madhya Pradesh. There were total 935 participants not only from India but also from other parts of the world as well (Malaysia, Indonesia, Sri Lanka, Bangladesh, Pakistan, Philippines, Nepal, Russia). The inaugural and opening remarks were delivered by the coordinator of the workshop, Dr. Khushboo Sandhu. The speaker of the first session was Dr. Sunil Goyal, who was a Social Scientist, Dean, Professor and Head, Writer, Master Trainer, Motivational and Professional speaker. Dr. Goyal is also the Editor-in-chief (Hon.) of IRJSSH (The International Research Journal of Social Sciences and Humanities). He is also associated with Government College, Anjad, District Barwani, Madhya Pradesh and Devi Ahilya University, Indore. In his lecture, he demonstrated the "Writing and Designing Scientific Manuscripts for Journals" and publishing them in peer reviewed journals which are Scopus indexed, approved by UGC Care list and having high impact factors. The most common purpose in academic writing is to explain some idea or research findings and then persuade the readers that the explanation of the research finding or the theory is the correct one. In doing so, we may need to describe an object, place or activity. Academic writing is the opportunity of the students or scholars to explore the area in which they are interested in. They have the freedom to choose the topic to express their own ideas and readers who are interested in reading their work. In this regard the author has to proceed step by step. The objective of academic writing is to understand the importance of the study i.e. what, why and how writing with quantitative and qualitative methods.

Dr. Sunil Goyal then mentioned that author has to understand various aspects of academic types of manuscripts. Academic writing involves the discovering, narrowing and focusing on the topic of research. The making of a manuscript involves sections including Introduction, Methods, Results and Discussion. Grant support received by any one of the authors or both authors need to be mentioned in the research article. References and Cover Letter are to be added. The main question arises here, why one should write research article. There can be various answers to this question: to express

thoughts, love for writing, to tell about something that the particular author loves, to share experiences and feelings, to ask questions, to teach, to tell about important events. The answers can be bit different when it comes to scientific writing: in order to advance professionally, to qualify for receiving grants, to contribute to the institution (how many research papers published in a particular time span always enhance the quality of the institution such as accreditation, official approval given by an organization when somebody achieves a certain standard), contribution towards research field, for the sake of personal satisfaction and development one can learn from by writing. There can be several personal reasons of the author for publishing a research article such as achieving Ph.D. degree, in order to receive funding, to get promoted by increasing API score (Academic performance indicator). However editors, reviewers and the research community do not care about these reasons. There have been several common barriers for authors who do not write, such as: lack of time, unfamiliarity with the process of writing (where authors do not know where to begin), rejection and criticism by the editors and reviewers lead to bad experiences.

Manuscripts are of several types: Case report (Descriptive having novel observations), Review articles (evidence based reviews often lead to guide clinical decisions, on the other hand systematic reviews summarize or synthesize the literature based on a topic), Research study (it is the report of original data which is based on observational or experimental data, these data can be quantitative or qualitative in nature). APA (American psychological association) manuscript types include: Theoretical manuscripts, Review manuscripts, Reports of Empirical research, Methodological manuscripts, Case studies, Media reviews. One should find a topic that truly interests him/her.

The making of manuscript needs the inclusion of different sections such as Abstract, Introduction, Methods, Results and Discussion. The Title of the manuscript should be informative, concise and attractive. Abstract is the advertisement of the article. Hence, the author needs to make it interesting and easy which can be understood without reading the whole article. The abstract should be highly condensed in nature comprising maximum of 250 words. Abstract can be of two types: structured (which is organized by headings) and unstructured (which is containing single paragraph without headings). Abstract should be the mirror of the whole manuscript, it should be accurate, clear and brief. Hence, the author must use words that will help in electronic searching. Then comes Keywords



which is mainly used for indexing and searching. It is the label of the manuscript. Next section after Keywords is the Introduction which explains the need of the study, problem which is being addressed in the research article, the existence of knowledge gaps, how the present study will contribute to this. The author must include a statement of purpose at the end of this section. In writing Introduction, author must make it concise but do not underestimate the previous literature, what has already been published; author should be focused and should know the purpose so that he/she can state it clearly. The next section "Methods" include study designs, variables analysed, measurements, data sources and collection, statistical analysis of the data. One should follow specific guidelines as per journal's requirements. "Results" include primary outcomes, tables and figures complementing text. The author should follow the basic rules for tables in APA format. Similar is the case with figures, one should follow the general guidelines for displaying figures. For displaying different types of quantitative data, different types of graphs are to be used such as Bar graphs for categorical independent variables, scatter plots for correlation analysis, line graphs for illustrating the relationship between two variables, circle/pie graphs for percentages, pictorial graphs for representing quantitative differences between groups.

Dr. Sunil Goyal then emphasized on the use of words such as 'because', 'since' and 'why' are to be used instead of 'the reason for', 'for the reason that', 'due to the fact that' respectively. "Discussion" section involves the summarization of the main findings, significance of the research i.e. the contribution coming out of the research, new knowledge which can be obtained from the knowledge. This section also includes the comparison of the previous research with new knowledge gathered. Limitations, future research directions and conclusion are also included under this section. This section is considered as the most difficult one to write as it requires the author to interpret the results obtained. There are several strategies which the authors should keep in mind while writing up a research article such as planning, literature review (literature review portion includes how to develop expertise, learn how others have done it, identify the gaps between previous study and new findings). According to the words by Thomas Rosenthal "Research starts with a review, advances to a study and expands to a publication". "Conclusion" of the research work should be simple. It should be focused on scientific results, future directions of the present work. This should be followed by a closing thought. Grant support received by authors should be mentioned in the article. Publishing literature review in

advance can help the authors to get grant. Well written articles should contain headings, subheadings, topic sentences which will result in a more concise and readable manuscript. Coming to the section "References" typically authors make more mistakes here than any other part of the manuscript. Authors should cite the main publications on which the research work is based on inclusion of too many references does not make it a better manuscript. Author should avoid adding excessive self-citations of publications, citations of publications from the same region. In order to create a reference list, the author should list the works cited, with corresponding numbers, on a new page after the text, titled reference. The reference list should be arranged in alphabetical order. Dr. Sunil Goyal showed different reference patterns to be followed in the manuscript under Reference section: book with single author, book with two authors, book with editor in place of author, journal article with single author, journal article with more than one author. Cover letter is the direct chance of the author to speak to the editor. In the cover letter, neither author should summarize the manuscript nor repeat the abstract, instead author should mention what makes it special to the journal. A good cover letter may accelerate the editor to process the paper. Cover letter should be viewed as a letter in job application, hence author should sell his/her work.

The second day of the workshop started with the welcome address by Dr. Richa Jain on behalf of Truba group of institutes, who emphasized the significance of the workshop and she discussed briefly about the theme of the workshop. Thereafter, Dr. Shyam Rathor, the Chairman and the Patron, Truba Group of Institutes, addressed the audience and explained the importance of the workshop. With this, he went on to invite Dr. Manish Manoria, Executive Director, Truba Group of Institutes to deliver his address. His Introductory speech was followed by the lecture delivered by Dr. Sunil Goyal. He focused on the Manuscript publishing on the second day of the workshop. Publishing a research article means that the information and literature in the manuscript is available for the public to view. Publishing involves the process of producing and distributing the literature so that public can have access to it. One thing that is being increasingly considered by publishers when accepting manuscripts is the selling power of the author other than the research paper itself. Authors should know the objective of publishing i.e. to understand various aspects and concepts related with academic publishing. For a research article to get published in an International reputed Journal, the authors should follow International Standards of writing.

Different types of International Standards of Writing are: American Psychological Association (APA), American Sociological Association (ASA), TURABIAN, Chicago, Harvard – Anglia, Modern Language Association (MLA).

How good a journal is determined by considering factors such as ISBN, ISSN, Citation Index, Impact Factor. The International Standard Book Number (ISBN) is a unique numeric commercial book identifier based upon the 9-digit Standard Book Numbering (SBN) code created by Gordon Foster, Emeritus Professor of Statistics at Trinity College, Dublin for the book sellers and stationers. An International Standard Serial Number (ISSN) is a unique 8-digit number used to identify a print or electronic periodical publication. ISSN are assigned to serial publications. An ISSN can be assigned to a series of monographs also. Periodicals published in both print and electronic form may have two ISSNs, a print ISSN (p-ISSN) and an electronic ISSN (e-ISSN or eISSN). The ISSN system was first drafted as an ISO (International Organization for Standardization) International standard in 1971 and published as ISO 3297 in 1975. A citation index is a kind of bibliographic database, an index of citations between publications, allowing the user to easily establish which later documents cite which earlier documents. In 1960, Eugene Garfield's Institute for Scientific Information (ISI) introduced the first citation index for papers published in academic journals, first the Science Citation Index (SCI), later the Social Sciences Citation Index (SSCI) and the Arts and Humanities Citation Index (AHCI). The first automated citation indexing was done by CiteSeer in 1997. Other sources for such data include Google Scholar. Here question arises how to write Citations. In order to cite one work by single author, following examples are to be noted.

- i) Smith (1983) compared reaction times
- ii) In a recent study of reaction times, it was found that (Smith, 1983)
- iii) In 1983, Smith compared reaction times

In order to cite one work by three or more authors, cite all authors for the first time when the reference occurs. In subsequent citations include only the surname of the first author followed by “*et al.*” and the year. Use “and” for the citations apart from the text whereas in the text use “&” under parentheses symbol. Example of this includes:

- i) Williams, Jones, Smith, Bradner, and Torrington (1983) found (first citation)

- ii) Researchers (Williams, Jones, Smith, Bradner, & Torrington, 1983) found (first citation)
- iii) Williams *et al.* (1983) found (subsequent citations)

The impact factor, often abbreviated IF is a measure of reflection of the average number of citations to recent articles published in science and social science journals. The impact factor of a journal is the average number of citations received per paper published in that journal during the two preceding years. For example, if a journal has an impact factor 3 in 2008, it indicates that papers published by the journal in the years 2006 and 2007 received 3 citations each on average in 2008. The impact factor of the journal in the year 2008 would be calculated as follows: Impact factor in the year 2008 = A/B

Where, A: the number of times articles published in 2006 and 2007 were cited by indexed journals during 2008.

B: the total number of “citable items” published by that journal in 2006 and 2007 (“citable items” are usually articles, reviews, proceedings or notes; neither editorials nor Letter to the editor).

It should be noted here that, 2008 impact factors are usually published in the year 2009, they can not be calculated until all of the 2008 publications have been processed by the indexing agency.

A good journal passes through peer review process. Peer review provides assurance that the article is double-checked by a reviewer. In science, a group of scientists completes a study and writes it up in the form of an article. They submit it to the journal for publication. The journal's editors send the article to several other scientists who work in the same field (i.e. the “peers” of the peer review process). Those reviewers provide feedback on the article and tell the editor whether they think the study is of high enough quality to be published or not. The authors may then revise their article and resubmit it for consideration. Only those articles which meet good scientific standards (well designed study which rely on logical reasoning) are accepted for publication. Peer-reviewed articles provide a trusted form of scientific communication.

To publish a research article in indexed journal, author must have enough knowledge about indexing. An index is a list of items pulled together for a purpose. Journal indexes are also known as bibliographic indexes or databases. Journals included in an index are considered to be of higher quality than those which are not indexed. For a journal to get indexed, the journal has to submit a formal application to the database and provide relevant documents and

evidences supporting its application. If the journal meets all criteria, it gets indexed. To meet basic indexing requirements, journals should have: An international standard serial number (ISSN), Digital object identifiers (DOIs), an established publishing schedule, a copyright policy, basic article-level metadata. Google Scholar, Scopus, PubMed, EBSCO, JIFACTOR, EMBASE, DOAJ, ISI Indexing are considered to be the best when it comes to indexing of a journal.

Authors should keep in mind “Research ethics”. Plagiarism is the use of another person’s ideas or words without giving them proper credit. Plagiarism can occur when the author uses someone else’s exact words without giving them credit, taking credit for someone else’s ideas or even presenting the author’s own past work as a new idea. Academic institutions take both intentional and unintentional plagiarism seriously which can sometime lead to dismiss the research article. Plagiarism is checked by a good journal i.e. whether all the sources mentioned in article have been cited or not. The term “Research ethics” covers the incorporation of ethical principles into research practice. The author should pay respect to all those people who were involved in all stages from inception of research to the completion and finally publication. The author should be aware of the moral principles of right and wrong while carrying out the research. The author should not make mistakes such as unrelenting carelessness, manipulation, copying which leads to plagiarism, citation and distortion. For a particular manuscript, author should not go for multiple submission process i.e. the submission of the manuscript in different journals at the same time. Authorship should be clearly mentioned by the author, which is based on substantial contributions to conception and design or acquisition of data or analysis or interpretation of data. Those who have participated in certain considerable aspects of the research project should be acknowledged or should be listed as contributors. Each author has to participate in the work to take public responsibilities for appropriate portions of the content. The corresponding author should ensure that all appropriate co-authors and no inappropriate co-author are included on the paper. If there is plagiarism or other ethical problems, the corresponding author has to take the responsibility. The corresponding author must include the appropriate identification of all co-authors and should mention if there exists any conflict of interest between the authors or not. Duplicate publication must be avoided. Author should keep in mind the Ethical Principles such as honesty, objectivity, integrity, carefulness, openness while writing a manuscript. In case of Duplicate publication two

or more papers share the same hypothesis, data, discussion points or conclusion without sharing full cross reference. Re-publication of a paper in another language is acceptable, provided that there is full and prominent disclosure of its original source at the time of submission.

Publishing a research article is very difficult. Publishing sometimes becomes as time taking as writing the research article. Choosing the right publisher will however make things quick and less time consuming. In order to find a journal, author should start identifying journals during literature search by visiting journal website and checking “Aims & Scope” and “Editorial Board”. Author must review examples of the recent articles published by the journal. After submission of the manuscript to the journal, editor decides whether to send for peer review process or not. The editor then decides whether to accept the article or not; whether there is any need of the revision of the manuscript or not. While responding to reviewers, the authors may feel sometimes that the reviewers are unfair, poorly performed, rude, however it is the reviewer’s job to be critical and they express even the most negative reviews. In this regard, an International editor says that there appears some problems too frequently, such as, submission of papers which are out of scope for the journal, failure to the format of the paper according to the journal as mentioned in the section under “Guide for Authors”, providing inappropriate (or no) suggested reviewer, inadequate response to the reviewer, inadequate standard of English, resubmission of rejected manuscript without revision.

In the educational market, publishers are working hard to develop apps, software and multimedia products that will lead to more interactive and innovative learning environment.

Dr. Sunil Goyal then asked the participants to ask him questions if there was any. Once the question answer session was over, he thanked and wished good luck to all the participants. After the completion of the informative speech by him, he handed over the session to Dr. Richa Jain. She thanked Dr. Sunil Goyal for his wonderful lecture, she then thanked the Chairman and the Patron Dr. Shyam Rathor for his tireless support to turn the ideas into originality. She also thanked the Executive Director, Dr. Manish Manoria who was the backbone of the workshop, whose thoughts enlightened the organizers to carry out this workshop. She expressed her gratitude to the principal, Dr. Rajeev Jain for his enormous cooperation and support. Lastly she thanked all the participants.

The well attended and organized workshop ended successfully by playing “National Anthem of India”. The workshop was very interesting and informative. □

*Sunandana Mandal, Researcher,  
Department of Soil Science and  
Agricultural Chemistry,  
Visva-Bharati, Sriniketan-731236  
e-mail : sunandanamandal@gmail.com*

### **Report : Covid 19: Challenges and Impacts on Health, Environment, Livelihood and Education**

An International Interdisciplinary Conference on “Covid 19: Challenges and Impacts on Health, Environment, Livelihood and Education” was jointly organized by International Benevolent Research Foundation Kolkata, Scientific and Environmental Research Institute, Kolkata, Confederation of Indian Universities, New Delhi and Govt Post Graduate, College, Bhaderwah, Jammu and Kashmir from 28 to 30 May, 2021.

Covid 19 has wreaked havoc throughout the world causing immense casualties and fatalities. To combat the deadly virus, lockdown was imposed in many nations which have adversely affected almost all the sectors. Educational Institutions faced closure, that led to disruption of the education system, many people were furloughed and others were made redundant. People started acclimatizing to this new normal but faced lot of problems which affected their day to day activities and livelihood.

Against this backdrop this International Webinar was organized to vividly discuss on the impacts of Covid 19 and emphasis was given on the measures that should be implemented in order to save the people from this malaise.

The webinar was formally inaugurated on 28<sup>th</sup> May and attended by eminent dignitaries and delegates from different fields as guests of honor, who shared their observations. The welcome address of the inaugural session was addressed by Dr Tridib Bandopadhyay, Chairman of Scientific and Environmental Research Institute. Dr Amit Krishna De, Advisor and Former Executive Secretary of Indian Science Congress Association spoke on the history of global pandemics starting from Spanish flu during 1918 -1920 to Covid 19 from 2019 and enlightened the audience. He also clarified the role of pollution in enhancing such type of epidemics. Dr Ashis Kumar Panigrahi, Pro-Vice Chancellor of Burdwan University, Dr Binay Kumar Chakraborty from Bangladesh,

Agricultural University, Dhaka, Dr Dilip Kumar Jha from Agricultural and Forestry University (AFU), Rampur, Chitwan, Nepal, Dr Tarit Roy Chowdhury, Associate Professor, Department of Environmental Studies graced the occasion and spoke on the relation between the environment and the pandemic. Dr Wahied Balwan from Department of Zoology, Govt Post Graduate College Bhaderwah, Jammu and Kashmir said a few words about the webinar. Dr Subir Mukherjee, President of International Benevolent Research Foundation, Kolkata delivered the vote of thanks.

Technical sessions were conducted and presided over by different academicians from different disciplines on 29<sup>th</sup> and 30<sup>th</sup> May, 2021. Dr Urvansh Mehta from Pacific Medical College and Hospitals, Udaipur delivered a speech on Development of Pulmonary Fibrosis in Covid 19 and its relation with Inflammatory Markers. Dr Mehta emphasized on the causes and impacts of the pulmonary fibrosis. Dr Srikanta Guria, Assistant Professor of Zoology, Barasat Govt. College, Kolkata presented “A Study on Impacts of Covid 19 Lockdown on the Behaviour of Birds. He asserted that the pandemic has reduced environmental pollution which has increased the population of birds throughout the globe. Souvik Tewari, Research Scholar, Food Science and Technology, Warner College of Dairy Technology, SHUATS, Allahabad, Uttar Pradesh, spoke on Mucormycosis and Post Covid 19 Fungal Infection. Mucormycosis, a potentially life-threatening fungal infection, is adding to India's COVID-19-related death toll. It is typically affecting the patients recovering from COVID-19 who are immune-compromised due to COVID or by the use of steroids and/or having diabetes. Ms. Vaishali Sharma, M.Sc student of Central University of Jammu, presented her study on the mRNA Vaccines, their importance. She highlighted the efficacy of mRNA vaccines, a new type of vaccine to protect against infectious diseases. Different types of vaccines work in different ways to offer protection. But with all types of vaccines, the body is left with a supply of “memory” T-lymphocytes as well as B-lymphocytes that will remember how to fight that virus in the future. It typically takes a few weeks after vaccination for the body to produce T-lymphocytes and B-lymphocytes. Therefore, it is possible that a person could be infected with the virus that causes COVID-19 just before or just after the vaccination and then get sick because the vaccine did not have enough time to provide protection.

In the next session Dr Suchismita Chatterjee Saha, Assistant Professor of Nabadwip Vidyasagar College, West Bengal and Dr Shailee Dewan, Assistant Professor of



Government Pharmacy College, Sajong, Sikkim spoke on “Novel Coronavirus and its Impact on Education Sector”. The sessions were also attended by Dr Tanmoy Rudra, Executive Secretary of Confederation of Indian Universities New Delhi and Dr S.B.Kshisagar, Principal of DPB Dayanand College of Education, Sholapur, Maharashtra.

The Valedictory Session, which took place on the evening of 30<sup>th</sup> May, was attended by scholars, students and reputed personalities. Participants gave their feedbacks. The concluding remarks were delivered by Dr. Sudip Barat, President of International Academy of Science and Research, Kolkata. Dr Barat said that such virtual conferences are the need of the hour, but participants should strictly adhere to the theme of the webinar to make it more purposeful. He further added that instead of researching on vast array of things it is imperative to be more specific in order to get more concrete outcomes. Health professionals, who attended the webinar, requested the audience to scrupulously follow the Covid 19 Protocols to abate the infections. □

**Arnesha Guha,**  
**Academic Head,**  
**Scientific and Environmental Research Institute**  
**(SERI), Kolkata**  
**Deputy Secretary,**  
**Confederation of Indian Universities (CIU), New Delhi**  
**e-mail: guha.arnesha@gmail.com**

### **e-Papers From ISNA To Celebrate 75<sup>th</sup> Anniversary Of Indian Independence**

Famous British author and journalist Stephen Richards once said: “when you do what you fear most, then you can do anything”. Perhaps this great quote emboldened the organizing committee of the Science Communication and Media Practice course of the Indian Science News Association (ISNA) to think of something different, something unusual, in the literal sense of the term. As such, to ISNA goes the credit of publishing *Science and Culture*, a prestigious and historic journal to spread the message of Indian science and ethos to a global audience, uninterruptedly for the past 86 years. The heritage organization also conducts the course to educate rookie science communicators. But times are changing, and changing too fast. There has been a communication revolution over the last couple of decades and people are switching from traditional media to social media.

Statistically, a populous India ranks after China in terms of mobile phone users. A recent survey indicated that Internet has brought in its fold more than 750 million Indians.

The committee members, most with chequered backgrounds, are among these users. A collective thinking gave rise to the idea that something novel has to be done. The occasion is considerably monumental: the 75<sup>th</sup> anniversary of the Indian Independence. A quorum of the grey haired and the greenhorns led to the germination of the thought – what about e-Papers? so as to bring science closer to the academics of different other disciplines as well as commoners. The assimilated fruition is *Scientifica Communica*, to be launched on August 15, 2021 and its sister vernacular publication বিজ্ঞান কহন shortly thereafter. But both the English and Bengali digital products will have separate identities and entities, each following the other, not in terms of content but in commensurate with the policy to be framed by an editorial board.

The conceptualization of the policy did not take long. Everybody agreed that, though confined to the social media, these would be such periodicals like e-Papers that will not propagate any malicious propaganda, social stigma, communal messages or controversial baggage. These will not be news portals but will carry information towards enlightening the public. The consensus was that articles and stories, supposed to be original, neither printed nor published anywhere, would be given preference. Neutral in its stand but vocal against dogmas and superstitions will be the motto of *Scientifica Communica* and বিজ্ঞান কহন।

It is a tragedy that these maladies are ingrained in our society even 75 years after we won our freedom. Our new bilingual platform will work towards eradicating this scum, which has also been a goal of the ISNA for the last several decades. All were of the opinion that our contributors should be fact finders, logical, trying to throw new lights on hitherto unexplored subjects or issues, rationally but not radically. They may express their opinion which would be of their own but not in contravention to or digressing much from the pursued editorial policy. The e-Papers may even encourage healthy debates on scientific issues without endangering the agreed options and norms. They must adhere to the guidelines specified by the editorial board while forwarding their pieces digitally. For a change, lest these appear to be exceptionally serious peer-reviewed journals, both e-Papers will offer varieties like crossword puzzles or even cartoons and there should not be any ambivalence towards that end. *Scientifica*

*Communica* and বিজ্ঞান কহন want to be popular and the board expects our contributors to keep that light blinking.

Stephen Richards once said: “*Success will be within your reach only when you start reaching out for it*”. Believing in him we do not doubt ourselves to keep our fingers crossed. We can only look forward to August 15, 2021.

#### **INSTRUCTIONS TO THE AUTHORS/**

##### **CONTRIBUTORS :**

- a. Length of articles must not exceed 300 words.
- b. Articles solely related to science communication and popularization will be accepted for publication.
- c. Articles must be written in a simple and lucid manner, understandable to all. Complex scientific or jargons must be avoided.
- d. Article types to be published – Information-based articles, stories/fictions, features, poems, news, crosswords, quiz, slogans, cartoons etc.
- e. It is preferable to maintain the following file format and font type and size:

For English: Times New Roman (14 pt. for headline), 12 pt. for body, with justified alignment.

For Bengali: Kalpurush ANSI (16 pt. for headline), 14 pt. for body, with justified alignment.

Articles must be submitted in both **.doc (Word 97-2003 compatible mode)** and **pdf** format.

For cartoons and pictorial illustrations, the image format must be **.jpg**; resolution must not be less than **300 dpi**.

- f. Keeping our goal of the e-Tabloids in mind, authors/contributors from all fields and with any academic qualification are welcome to contribute.
- g. The source of the news or the photographs that will be incorporated in the article must be mentioned in brief.
- h. Authors are requested to mention their name and identity (like designation or name of the school/college/institution and the like) in brief, along with their e-mail address.
- i. Articles must be typed and submitted via electronic mode only. The e-mail addresses for article submission are:

For English: [scientificacommunica@gmail.com](mailto:scientificacommunica@gmail.com)

For Bengali: [bigyankahon@gmail.com](mailto:bigyankahon@gmail.com)

- j. There is no article processing charge for submission to the e-magazine.

#### **Please note the following:**

- Mere submission of an article does not guarantee publication. Acceptance or rejection of an article depends solely on the decision of the editorial board.
- Articles that will be accepted for publication will be notified to the respective authors via e-mail. Articles that get rejected will not be returned to the author but attempts may be made to inform the rejection status.
- The editorial board will take decision regarding publication of exceptional articles exceeding 300 words. In such a case, the articles may be published in smaller, sequential installments.

#### **EDITORIAL BOARD**

**Editor:** Shri Prasanta K. Bose

**Joint Editor:** Dr Arnab Kumar Banerjee

**Members:** Dr K Muraleedharan, Shri Pathik Guha, Dr T V Venkateswaran, Prof Sudhendu Mandal, Prof Manas Chakrabarty, Prof Barun Kumar Chatterjee, Prof Syamal Chakrabarti, Dr Amit Krishna De, Dr Manas Pratim Das, Dr Sima Mukhopadhyay, Dr Devaprasanna Sinha, Dr Minakshi De, Dr Buroshiva Dasgupta, Dr Shankarashis Mukherjee, Dr Sabyasachi Chattopadhyay, Dr Sumitra Chaudhuri, Dr Kali Prasanna Dhara, Dr Asis Das, Mrs Arpita Chakraborty and Mr Ratul Dutta

**Editorial Assistants:** Sk Mizanur Rahaman, Sukalyan Gain, Sk Tuhin Sajjad, Rezwana Parvin, Barnini Bhattacharya, Sudipta Chakraborty, Krishnendu Rath, Debosree Ghosh, Neepa Banerjee, Surjani Chatterjee, Junaid Jibran Jawed, Sandipan Chatterjee, Bibhas Adak, Sk Jinnat Ali and Tanusree Dey

**Technical Advisor:** Shri Shib Sankar Datta

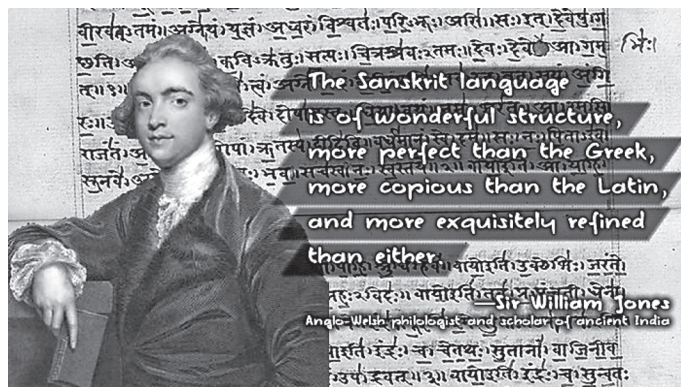
Prasanta K. Bose - Journalist, Science Writer, and former Press Chief, U.S. Consulate General, Res.: 594, Rabindra Sarani, Kolkata 700003, Email: [boseprasanta@hotmail.com](mailto:boseprasanta@hotmail.com)

# SIR WILLIAM JONES OBSERVATIONS ON INDIAN PLANTS

Sir William Jones, FRS, FRAS, FRSE (28 September 1746- 27 April 1794), was a celebrated oriental scholar, linguist and prodigy of learning and a Puisne Judge on the Supreme Court of Judicature at Fort William in Bengal, who was also credited for establishing the Asiatic Society of Bengal (the first academic institution in India) in the year 1784.

Jones had a considerable interest in Natural History, particularly Botany – “that most lovely and fascinating branch of natural knowledge” – as he described it. His life, work and letters have been more than adequately discussed but his interest on botanical fervor had also been explained to the fact that he planned an exhaustive work on Indian botany. Jones published only four papers on Indian plants, two of which appeared posthumously in the Society’s journal, *Asiatick Researches* in 1795. It is surprising to note that his papers, especially the last one, have not received more consideration by botanists, particularly students working on Indian flora, only because of considerable problems arise in trying to interpret the nomenclatural system used by Jones.

The last and most important posthumous paper “*Botanical observations on select Indian Plants*”, published in *Asiatick Researches* (1795) was Jones’s most extensive study on the subject and the result of a decade or more of botanical exploration research in and around Krishnagar. The “*Observations*” described 78 plants which were all selected by the author for their “*novelty, beauty, poetic fame, reputed use in medicine or supposed holiness*” and which were mentioned in the sacred poems of the ancient Hindus. The botanical descriptions were very systematic and detailed but the nomenclature used by Jones is extremely complicated. In the “*Observations*” each of the 78 plants is given Sanskrit name, a uninominal, which is followed beneath by its common name (“name in the vulgar dialect”), “synonym” (? Presumably also dialect names) and then Linnaean or other scientific equivalent where known, often with the epithet “*IPOMOEA Quamoclit* of Linnaeus” becomes CAMALATA, whereas SRINGATA is called “floating TRAPA”; CARAVIRA is said to refer to “*NERIUM Oleander*, and other species”, and CHAMPACA refers to “*Michelia* of Linnaeus”. Most of the plants are given very ample descriptions, the structure of the flowers being particularly well described. There is generally a short paragraph at the end of each description where the various virtues of the plant are extolled.



Jones used the Sanskrit names for the plants in this paper because he felt the names which had already been given them by Linnaeus or other botanists were unsatisfactory. In fact in the introduction to the “*Observations*” he quotes Linnaeus thus ..... “*If my names of plants displease you, .... choose others more agreeable to your taste*”. Jones then continues ..... “*I avail myself of his indulgence, and I am very solicitous to give Indian plants their true Indian appellations; because I am fully persuaded that Linnaeus himself would have adopted them had he known the learned and ancient language of this country.....*”.

It is also to be noted in interpreting the names used in the “*Observations*” we must also refer to his second posthumous paper where he made a plant list of some 419 Sanskrit names arranged alphabetically and which was published in the same volume entitled “*A Catalogue of Indian Plants comprehending their Sanskrit and as many of their Linnaean Generic names as could with any degree of precision be ascertained*”. As the title suggests, the latin generic names are included where known but there are seven Sanskrit names lacking them and which Jones called new genera; these are ASOCA, BAHVANGA, CAMPILLA, CARANJACA, GAJAPIPALI, NICHULA and SYAMA. A large number of others appear to have had no known Linnaean equivalent. **This is the first report on Indian plants published by Sir William Jones.** □

**Sudhendu Mandal**

Former UGC Professor and Head  
Department of Botany, Visva-Bharati

Former Director

National Library (Govt. of India)

Editor-in-Chief, *Science and Culture*

Indian Science News Association

e-mail: chiefeditorscienceandculture@gmail.com