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Newsletter Theme: Research and Publication Ethics

CONTENTS

Director's Message

The research and publication ethics is a crucial pillar in maintaining scientific integrity and credibility that starts from planning of research activity to its publication. The research team, university / institute, funding agency and publishers all are the important part in systematically following the norms of conduct in research and publication. The clarity of objective is first step in quality research that promotes values of trust, respect and objectivity in collaborative work environment by avoiding conflicts of authorship, copyrights and IPR. Plagiarism, research fraud, competitions are some of the areas that affects the scientific integrity as well as position of researcher in its team and scientific community. Several institutions have developed guidelines for the implementation of ethics in research and development from time to time. Universities and research institutions are also promoting research and publication ethics practices through their internal quality assurance committees or research cells. Further, many IT based tools have provided an easy evaluation of plagiarism in publications and has become compulsory part of quality research and publication.

To impart knowledge to young university researchers an online Faculty Development Programme was conducted by the institute in April, 2021 on the theme of Research and Publication Ethics in that 40 participants have registered from all over the country. The sessions have been conducted by eminent experts in the subject from different national and deemed to be universities as well as independent subject experts. The focused lectures on publication ethics and plagiarism tools were delivered by experts from Springer Nature and Urkund. The current issue of The Environment Management newsletter includes a few best articles submitted by the participants that will be useful for young researchers and students to understand the nuances of the topic.

Dr. Seema Mishra

COPYRIGHT ISSUES IN PUBLICATIONS

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Copyright, a type of intellectual property, gives the owner or the author protection for his/ her own in legal terms. In much simpler terms, rights to copy a copyright-protected work can only be given to someone who has been granted authorization to copy, which means no work can be used or reproduced without the consent of the creator. Such protection provides the author with exclusive publication and usage rights for a given good amount of time. This time frame varies from country to country, after which the copyrighted items are open to the public domain (1,2). In India, copyright is protected for 60 years, counted from the death of the owner or the author. It is protected under the Copyright Act,1957 (3).

A copyright protects the expression of an idea or concept and not the idea or concept itself. If the expression is original, it can be copyrighted. Several items that can be copyrighted are text, drawings, designs, codes, test data, sounds, videos, and a lot more! Copyrighting, although not mandatory, helps remind others that the work is protected.

Copyrighting can, however, give rise to many issues be it in e-publishing, legal research, and writing, electronic books, open access research journals or newsletters and magazines (4, 5, 6, 7, 8). Let us see five such issues and ways to resolve them in the best possible manner-

a) Ownership: Who is the owner of the copyright? This very question/ concern arises every time an author files for copyright. By default, the creator of the work is the owner of the copyrighted work, for example, a painter who creates a painting or drawing becomes the owner of his copyright work. But if the creator's work is being funded by a third party or if two or more creators are involved in creating a work then it becomes a difficult ownership issue. In such cases, joint authorship may be created under the Copyright Act which combines the contribution of all the creators (9). In cases where art or work is created during the period of employment, the employer or the organization owns the copyright (10).

b) Plagiarism/ Copyright Infringement: Plagiarism occurs when one reproduces someone else's work as a part of their intellectual contribution and creation. An individual is allowed to quote a part of someone's work but must give full credits to the original author or creator. Copying a copyrighted work and presenting it as your own will not only lead to plagiarism but also copyright infringement. Though there are many similarities between the two, not all copyright infringements are plagiarisms and not all plagiarisms are copyright infringements. Thus, it is very important to know the areas where they diverge (11).

c) Website Copyright: It is necessary to understand the fact that every piece of data available on the internet is protected by copyright, including the content of websites. The graphics used or the audio/ videos added during the creation of the website are all copyright protected. Thus, no original content on the web page can be reproduced without prior permission of the owner (10).

d) Creative Commons: While copyright allows the author's work to be shared or used only after granting permission, creative commons allow the author to share their copyright work globally without involving commercial needs. Protection under creative commons is gained through legal agreements

and licenses (10, 12). Credit needs to be given to the owner even if it is a part of creative commons.

e) Copyright period: As mentioned earlier, the copyright period differs globally and depends upon what work is being copyrighted. Generally, this period is of 60 years which is counted from the year after the death of the author or owner for original literary, musical, and artistic works. In cases of works like sound recordings, cinematograph films, or photographs this period of 60 years is counted from the date of publication (3).

Thus, one must always copyright their work, wherever applicable, though not mandatory. A © symbol allows the readers or viewers to know that this particular work is protected by copyright and one must seek permission from the owner to use or reproduce the work.

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11. https://www.applytrademark.co.in/plagiarism-copyright-infringement/
12. https://creativecommons.org/get-cc-savvy/copyright-creativecommons-are-friends/#:~:text=Copyright%20law%20gives%20creators%20certain,their%20work%20in%20certain%20ways.

PUBLICATION ETHICS IN INDIA

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Introduction

The Committee On Publication Ethics (COPE) is an international forum for editors and publishers of peer-reviewed journals that provide the 'code of conduct' and 'best practice guidelines' that define publication ethics and advises editors on how to handle cases of research and publication misconduct[1,2, 3] A research paper is an organized with hypothesis, data collection, conclusions. Research conducted has to be published otherwise, it is considered as not done. The roots of scholarly, publishing can be traced to 1665, when Henry Oldenburg of the British Royal Society established the journal *Philosophical Transactions of the Royal Society*. The aim of the journal was to create a public record of original contribution to knowledge and also to encourage scientists to "speak" directly to others. [4]

There are organizations which give recommendations and develop guidelines to help out authors, editors, and reviewers. The purpose is to create and disseminate accurate, clear, reproducible, unbiased research papers. The organizations involved with publication ethics are, International Committee of Medical Journals Editors (ICMJE), World Association of Medical Editors (WAME), and Committee on Publication Ethics (COPE). Every journal has authorship criteria based on the ICMJE guidelines.

The ICMJE states, "All persons designated as authors should qualify for authorship, and all those who qualify should be listed." The ICMJE describes basic criteria that must be collectively met to be credited with authorship [5]. Research fraud refers to publications those results from data that are not generated by the study but generated by manipulating the data. It is simple for experienced reviewers and editors to make sense whether the authors is in research fraud by looking at the statistics, tables, P values, odds ratios, etc. Fabrication and falsification are severe forms of research misconduct.

Hence, all data from the clinical study should be preserved for a reasonably long period. Writing a research paper is an important yet challenging form of broadcasting the knowledge. It should contribute towards the knowledge and awareness of readers.

A publishable article needs to be original, conducted and drafted with strong methodology and considerable findings, well organized, well written, and concise. Papers that are poorly organized cluttered with unnecessary information, and extension of previous reports results as not accepted for, publication. Violation of ethical or legal norms, including plagiarism, duplicates publication lead to immediate rejection of the paper [6]. Authorship is the matter of pleasure that has to be deserved, earned and declared. [7] To maintain the integrity and credibility of research and to nourish the trust of public in research events, all authors must follow the rules of good scientific publication practice:

- Do not fabricate/manipulate the data
- Give proper appreciation to other works
- state whether current research has been published/ presented before

- State COI
- Do not submit the manuscript to more than one journal
- Take approval from the Institutional Ethics Committee before conducting research
- Take direct responsibility for appropriate portions of the content.

Publication of research in peer-reviewed journal not only validates the research and boosts confidence of the authors but also gives national and international recognition to an author, department, university, and institution [8]. Clear and concise language will helps editors and reviewers to concentrate on the content. For current information, references should be cited. As a responsible author copyright transfer form should be signed by all the authors before submitting to the journal. As per copyright law and publication ethics, whatever is available in the journal for reading would be original unless and until there is a clear statement that the author and editor are intentionally republishing an article.

Conclusion

Consciousness of good publication practices should be generated among the authors to prevent unethical practices in publication of scientific research. Each institute and department should way out to COPE or ICMJE recommendations for publications and draft their own SOP for authors. Unethical practices on the part of the authors or scientific misconduct should be discouraged and addressed by appropriate training and guidance. Being aware of publication ethics will help readers to consciously stay away from such misconduct and perform ethical research and chase publications.

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CONFLICT OF INTEREST

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Introduction

Conflict of interest in research is identified as deviation from primary goals of research to certain underlying goals. This deviation may be influenced by factors such as financial and prospects of career advancement(Romain, 2015). The conflict of interest has been extensively reviewed and studied in orthopedic research, spinal research, nutrition research, tobacco industry and many other fields(Amiri, Kanesalingam, Cro, & Casey, 2014; Barnes & Bero, 1996; Mozaffarian, 2017; Okike, Kocher, Mehlman, & Bhandari, 2007). The conflict may not inherently represent misconduct in research. It is natural for research to be carried out with secondary goal such as career advancement as long as it is not conflicting with the primary goal of carrying quality unbiased research. Research which is not free from conflict may be useless and waste precious project resources. It may also be detrimental to the health of humans, animals or environment.

Conflict of interest in Research

Funding for research projects is one of the methods by which the funding agency controls the outcome of the project. An example of this is of effect of anthropogenic noise on marine mammals. 50% of mammal research funds worldwide are disbursed by US navy and the sonar used by US navy is known to kill marine mammals. Research carried out by US navy funds was 2.3 times likely to deny existence of effects of anthropogenic noise on marine mammals(Wade, Whitehead, & Weilgart, 2010). Another example is of fossil fuel companies denying climate change to continue their operations of exploration and usage of fossil fuels(Frumhoff & Oreskes, 2015; Norgaard, 2006).

The tobacco industry has been funding research which challenges that environmental tobacco smoke is not detrimental to health of human beings. It is hypnotized that data generated from this research may be used for legal and legislative issues related to tobacco smoking(Barnes & Bero, 1996).

The conflict of interest may arise in medical fields where the effect of a therapy, procedure or drug may be exaggerated or undermined to benefit the corporation funding the research. Literature review has revealed that only 5% of studies funded by companies of new drugs revealed unfavorable results. This may be compared with 38% of studies showing unfavorable results from independent studies. The difference in unfavorable results clearly shows that conflict of interest in biomedical studies(Elliott, 2008).

Mitigating conflict of interest

The conflict of interest can be mitigated by taking action at institution level and personal level. The award of tenure or promotion can be uncoupled from research performance. This may reduce conflict of research for career gains. The funding from industry may also be reduced to mitigate conflict of interest for financial gains. Researchers have also identified certain personal traits which may help with avoiding temptation while

carrying out the research. These may include avoiding conflict altogether, asking for help, building will power and avoiding temptation(Curzer & Santillanes, 2012).

In the publication process, some scientific journals have made provisions to reduce conflict of interest. Standards for conflict of interest have been established by International Committee of Medical Journal Editors, the World Association of Medical Editors and the Committee on Publication Ethics (COPE). The codes established by COPE requires its 7000 journal members to comply. It also has mechanisms for redressal of complaints regarding violation of the codes. The membership to the organization is revoked on non-compliance of these codes(Ruff, 2015). Journals today also need a conflict of interest statement from researchers. This statement is to include any potential conflict of interest.

Conclusion

It is seen that all research is motivated by secondary underlying goals. The motivation for research may be justified as long as it does affect the outcome of the research. However, in this case personal bias and robustness of the research work should be taken into consideration. Institution and personal level rules and regulations need to be established to prevent conflict of interest.

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PLAGIARISM AND TOOLS FOR ITS ASSESSMENT

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Plagiarism:

Plagiarism is nothing but copying the idea / thoughts / work of other person without being giving credit to the work of original person/author and representing that idea / thoughts/ work as its own.

Latin word "plagiarius" which means kidnapper and plagiarism word is derived from this word.

Plagiarism is not done always intentional but it can be accidental/unintentional.

Need of plagiarism :

Plagiarism is an breaking of academic integrity and its an academic dishonesty.

It is in principle of IPR to give credit to original idea/ thoughts/ work of the author.

To check this academic honesty plagiarism is required.

Categories of plagiarism :

a) Accidental : due to lack of knowledge of plagiarism
b) Unintentional: due to huge information same idea comes
c) Intentional: intentional copying others work without giving Without goving credit to original author.
d) Auto plagiarism /Self plagiarism : publishing our own work in another form without being referring the original work which author have published.

Author	Type of plagiarism
Martin (1994)	Word-for-word Paraphrasing Secondary sources Form of a source (structure of an argument) Ideas Authorship
Howard (1995)	Cheating (borrowing, purchasing or otherwise obtaining another's work) Non-attribution of sources 'Patch-writing'
Klausman (1999)	Direct Paraphrasing 'Patchwork'
Evans (2000)	Quotation Paraphrasing Auto-plagiarism (failure to cite oneself) Self plagiarism (submitting the same document several times) Cryptomnesia (where hidden memory plays a key role in lack of citation).
Harris (2001)	Downloading free papers from the Internet Buying a paper from a commercial paper mill Copying an article from the Internet or online database Translating foreign article into English/another language Copying a paper from another student Cutting and pasting from several sources Quoting less than all the words copied Changing some words but copying whole phrases Paraphrasing without attribution Summarising without attribution Faking citations

List of plagiarism methods commonly in practise.

copy-paste: copying word to word textual contents.

idea plagiarism: using similar concept or opinion which is not common knowledge.

paraphrasing: changing grammar, similar meaning words, re-ordering sentences in original work / restating same contents in different words /Paraphrasing the work of

others by altering a few words and changing their order

artistic plagiarism: presenting someone else's work using different media, such as text, images, voice or video.

code plagiarism: using program code, algorithms, classes, or functions without permission or reference.

forgotten or expired links to resources: addition of quotations or reference marks but failing to provide information or up-to-date links to sources.

no proper use of quotation marks: failing to identify exact parts of borrowed contents.

misinformation of references: adding references to incorrect or non existing original sources.

translated plagiarism: cross language content translation and use without reference to original work.

Reasons of plagiarism :

1) The lack of information and inadequate knowledge is one of the major reasons for plagiarism.
2) Improper command of the English language
3) Lack of time
4) Lack of interest

Reasons why should not get plagiarised :

1) No self respect
2) To decrease your reputation level in academic
3) May harms your professional carrier

Steps involved in plagiarism :

There are main four steps involved in the plagiarism as given below

Collecting data ------- detection ------- conformation --------detection

Antiplagiarism software / tool : measures the similarity between work given by author and material which is available for public online :

Various antiplagiarism tool :

a) **Dupli checker** : freely available tool , easy to use

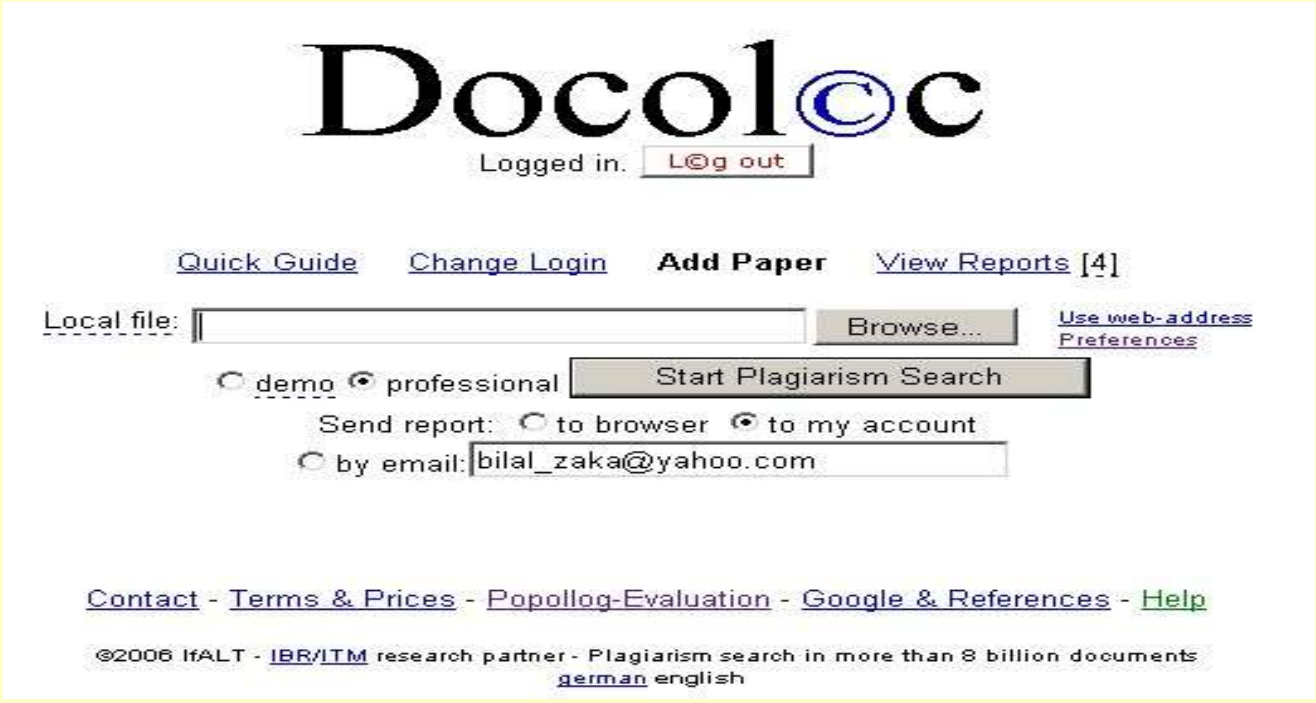
b) **Copyleak** : another tool to check eLearing content is used all over the internet , used to check various file format

c) **Paper rater** : used around 140 countries for multipurpose plagiarism, gives accurate result in seconds.

d) **Plagiarisma** : its an another free multipurpose antiplagrism tool

e) **Turnitin** : its an web based service provided by iParagiagms in which detection and processing is done remotely.in this suspected document is uploaded in the system database and then complete fingerprinting is done. The system generates the originality report within some minutes of submission. The report contains all the matches detected and links to original sources with color codes describing the intensity of plagiarism [Turnitin tour 2006].

f) **Docol©c:** A web based service offered by Institut für Angewandte Lerntechnologien. The which has be plagiarised it is uploaded in the system and then it will give the plagiarised fragmen . How its actually looks in the system is shown as follows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by email:
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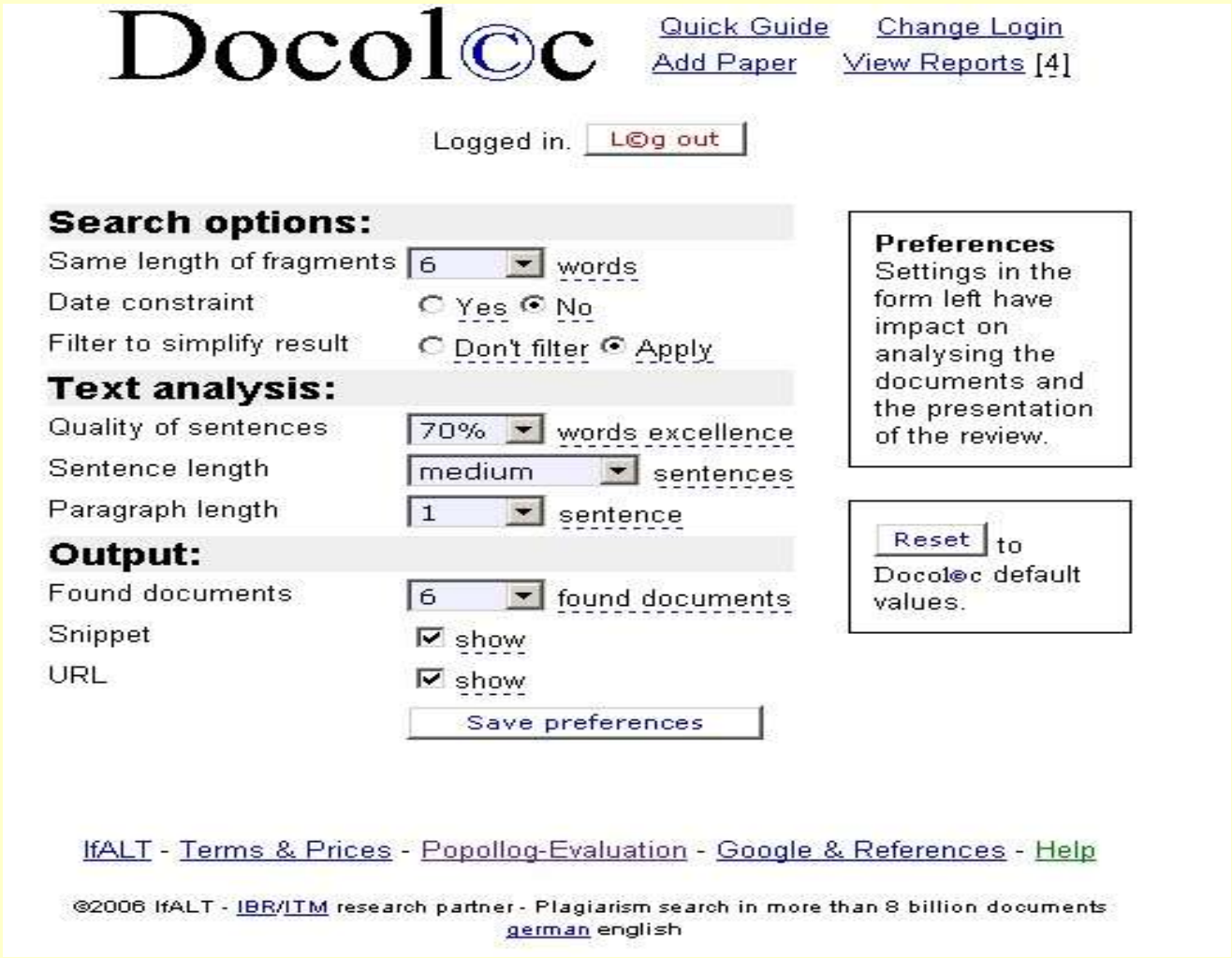
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Search options:
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No
Filter to simplify result
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Apply
Text analysis:
Quality of sentences
70%
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sentence
Output:
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found documents
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show
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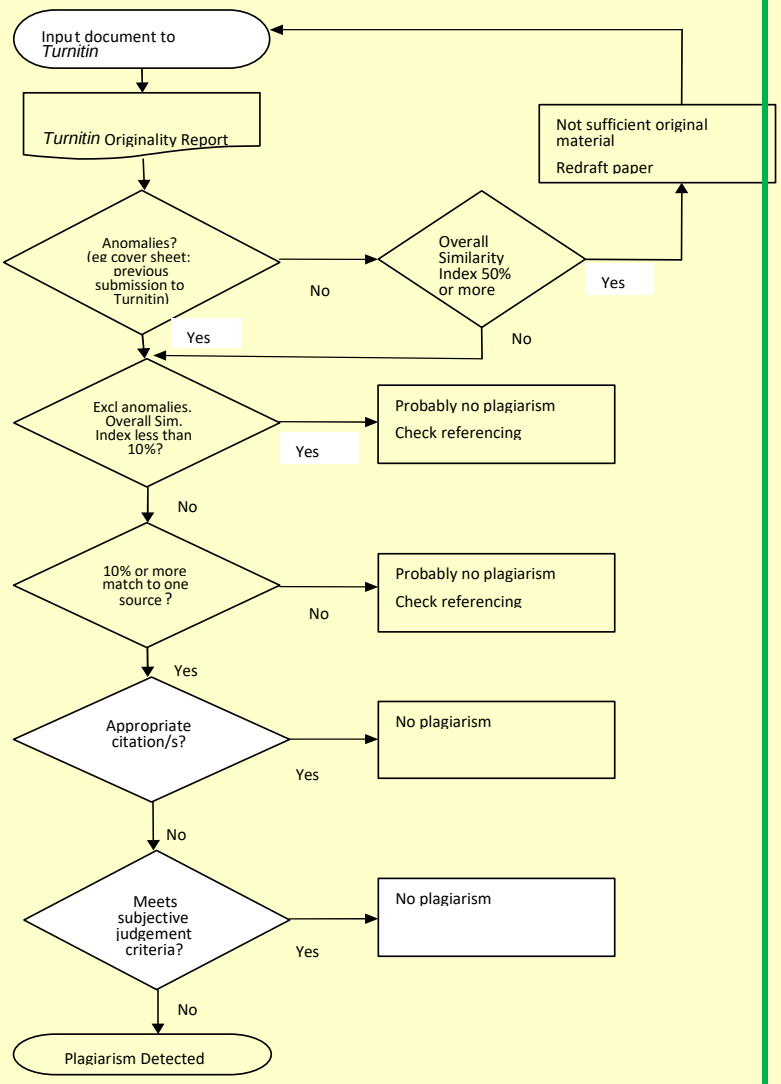
Preferences
Settings in the form left have impact on analysing the documents and the presentation of the review.
Reset
to Docol©c default values.
IfALT - Terms & Prices - Popollog-Evaluation - Google & References - Help
©2006 IfALT - IBR/ITM research partner - Plagiarism search in more than 8 billion documents
german english

Model to do plagiarism for students:



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PUBLICATION ETHICS IN INDIA

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An individual's research performance is based upon the total number of publications and the total number of citations for the work. The research output is a pathway by which research can be made available to other people by the researcher which can be in the form of publication or presentation. The successful publication of a research article involves the following steps – Choosing appropriate study design, execution of study, collection of data, analysis of data and finally publication. At each step the researcher should be aware of the ethical code of conduct. Publication ethics deals with issues like approval by statutory and ethics committee, data manipulation, plagiarism, research fraud, duplicate publication, simultaneous publication and self-citation [1]. Various agencies have laid down guidelines on responsible conduct of research, example - Govt. of India Gazette notification by the University Grants Commission [3], the Policy document by ICMR [4], Draft National Policy on Academic Ethics by Office of PSA [5], a book on Ethics in Science- Education, Research and Governance by the Indian National Science Academy [6], COPE Guidelines for Good Publication Practice [7].

Enlisted below are the major ethical issues considered during the publication of a scientific article in India:

I) Non-compliance of Regulatory Guidelines:

This includes inappropriate use of research funds, violation of guidelines for conducting human and animal research and not following the biosafety regulation. The Ministry of Environment, Forests and Climate Change (MoEFCC), India has provided guidelines on the rules and regulations on the use of animals in research [1,2].

II) Data manipulation:

Data manipulation can be further classified into –

a) Data fabrication – Reporting results and conclusions that are not generated by the study.

b) Data falsification - Reporting results that are manipulated [1,2].

III) Plagiarism:

Plagiarism can be classified into two categories –

a) Clear plagiarism - Defined by COPE as unattributed use of large portions of text and/or data, presented as if they were by the plagiarist

b) Minor plagiarism - Copying of short phrases, without any misattribution of data.

According to the proposal prepared by University Grants Commission, plagiarism is considered as a legal offence in India [1,2].

IV) Duplicate publication:

As per COPE guidelines, duplicate publication can be classified into two types:

a) Duplicate publication based on the same dataset with identical findings and/or evidence that authors have sought to hide redundancy. This is considered as major offence by COPE.

b) "Salami slicing," is defined as a duplicate publication with some element of redundancy or legitimate repetition or reanalysis. This is considered as a minor offence by COPE [1,2,7].

V) Simultaneous submission:

Submission of same manuscript to multiple journals at the same time is called

simultaneous submission. This is considered as a gross misconduct by the CSIR guidelines [2]. 2

VI) Self-citation:

Excessive citation of one's own published work which is not relevant to the context of research being reported is called as self-citation [1,2] .

VII) Authorship ethics/ Inappropriate authorship:

As per the CSIR guidelines "Excluding genuine contributors from authorship, including non-contributors, or claiming authorship for oneself without having made any meaningful contribution is inappropriate" [2].

The International Committee of Medical Journal Editors (ICMJE) states, "All persons designated as authors should qualify for authorship, and all those who qualify should be listed." The ICMJE describes three basic criteria that must be collectively met to be credited with authorship:

1. Substantial contribution to the conduct of study including its conception and design, data acquisition, statistical analysis, and interpretation
2. Drafting or revising the article for intellectual content
3. Approval of the final version [8].

Misconduct with respect to authorship can be of three major types:

a) Ghost authorship – Authors who contribute substantially to the development of paper but not given authorship or acknowledgement in the paper published. Generally they are paid authors.

b) Gift authorship – Including the name of an author in the list of co-authors due to an affiliation to the institute where the research was conducted.

c) Guest authorship – Authors who do not significantly contribute to the study but whose presence as co-authors improves the possibility of manuscript acceptation.

Addition or removal of author names in the list of authors after acceptance or publication of article is possible only if all the co-authors agree to the changes and sign individually in the requisition sent to the editor of Journal [1,2].

As per the CSIR guidelines, the actions to be taken depending upon the level of misconduct is given in the following table [2].

TABLE 1 Category	**Characteristics**	**Action**
I. Simple Error or Minor Transgression	Non-deliberate, evidence of experiments having been performed via lab books or other records, with minimal or no change to primary scientific conclusions	First: No action required other than correction of mistake or Counselling Second: Minor penalty such as warning for person(s) held responsible
II. Moderate Transgression	Very frequent instances of category I transgressions (>10). Deliberate, errors with changes to primary scientific conclusions, probable data fabrication	Minor penalty commensurate with frequency and degree. Removal from responsible position or Ban supervision or Ban submission of proposals or Ban consultancy or Defer increments or Deferred promotion or Take a credit course on Ethics.

THE FEAR OF A BLANK PAGE

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I start this article by 'copying' a quote by Mokokoma Mokhonoana. But 'Can this be accounted as an offense?' is the question I start wondering.

In this article, we will be briefly discussing the buzzword in the literary as well as research world: Plagiarism. To clarify what constitutes plagiarism is one thing and what is wrong with it is another, although both are inter-related [1].

Plagiarism is a growing matter of concern in academia. Plagiarism need not necessarily be stealing the work of a published author, one student using another student's work, or his previous work is also considered as a violation.

According to plagiarism.org, there are many definitions of what constitutes plagiarism.

1. turning in someone else's work as your own
2. copying ideas or words from someone without giving credit
3. failing to put a quotation in quotation marks
4. giving incorrect information about the source of a quotation
5. changing words but copying the sentence structure of a source without giving credit
6. copying so many ideas or words from a source that it makes up most of your work whether you give credit or not [2]

Plagiarism is not always intentional; it can be accidental or unintentional or may also include self-stealing. Plagiarism affects critical thinking and ends up deceiving the readers. With the use of electronic media and digitization of all forms of data; there has been widespread copy-paste plagiarism and inappropriate use of sources. Plagiarism by students, academicians or researchers has been termed as academic dishonesty or academic fraud which can lead to consequences like suspension or loss of credibility and perceived integrity.[3]

There is a very thin line between plagiarism and research because, as it is often said, advanced research is only possible by "standing on the shoulders" of others. Hence it important to identify the different forms of plagiarism. The ten most common types of plagiarism are described in an infographic by Turnitin. The most common type of plagiarism being CLONE, CTRL-C and MASHUP.

Merely defining Plagiarism as copying someone else's work or idea undermines the gravity of the offence.

turnitin

The Plagiarism Spectrum:

Tagging 10 Types of Unoriginal Work

The Plagiarism Spectrum identifies 10 types of plagiarism based on findings from a worldwide survey of nearly 900 secondary and higher education instructors. Each type has been tagged with an easy to remember digital moniker, defined, ranked by severity (#1-10), and scored by frequency of appearance (1=least, 10=most).

SEVERITY			FREQUENCY
#1		**Clone** Submitting another's work, word-for-word, as one's own	9.5
#2		**CTRL-C** Copying significant portions of text from a single source without alterations	8.9
#3		**Find & Replace** Changing key words and phrases but retaining the essential content of the source	3.9
#4		**Remix** Paraphrasing from multiple sources, made to fit together	5.6
#5		**Recycle** Borrowing generously from one's previous work without citation	5.5
#6		**Hybrid** Combining perfectly cited sources with copied passages without citation	.5
#7		**Mashup** Mixing copied material from multiple sources	9.1
#8		**404 Error** Citing non-existant sources or including inaccurate information about sources	.6
#9		**Aggregator** Including proper citation of sources but containing almost no original work	2.8
#10		**Re-tweet** Including proper citation but relying too closely on the text's original wording and/or structure	4.4

0 1 2 3 4 5 6 7 8 9 10

www.turnitin.com

According to Merriam Webster Dictionary,

"Plagiarism can be -

a. **An act of stealing and passing off (the ideas or words of another) as one's own: use (another's production) without crediting the source.**
b. An act of committing literary theft: present as new and original an idea or product derived from an existing source." [4]

Plagiarism also implies unauthorized stealing of intellectual property, which deprives the author of deserving profits, reduces scientific creativity, and leads to negligible contribution to science and society. Even the slightest shadow of violation of scientific honesty with misconduct in scientific work completely devalues the work.[5]

In spite of such grave consequences, what drives a person to resort to stealing someone else's work? Few of the reasons mentioned by Mazic I are: [6]

- Following trends of academic promotion and research funding, which entails "publish at all costs" or "Perish mantra;"
- Personal ambitions of poorly educated individuals;
- Financial pressure

The other causes of plagiarism can also be laziness, improper time-management, fear of failure, peer pressure and competition, lack of knowledge, lack of motivation, desire to gain recognition. [7,8]

Since plagiarism can range from simple dishonesty to a serious problem, it attracts penalty depending on the severity of plagiarism. It ranges from formal disciplinary action (apology letters, retraction of the published article) to criminal charges (suspension and prosecution of authors). [7,9]

As per the rules, when someone is found guilty, he/she should be imposed with the penalty considering the severity of the plagiarism. These rules consist of total four levels ranging from zero to three, and penalties under each level are as follows: (The Gazette of India, 2018).

"Under the new guidelines up to 10% similarity is acceptable and terms it as minor or Level 0. The guidelines further quantify the degree of plagiarism as Level 1: Similarities above 10% to 40% with the penalty being resubmitting revised script; Level 2: Similarities above 40% to 60% for which the penalty is debarring the student or researcher for 1 year; Level 3: Similarities above 60% can lead to the cancellation of the student's registration." [10]

However, the penalty differs for the faculty-in-charge.

To prevent any moral damage to your research work, it is always advisable to check for unintentional duplication using plagiarism detection software before submitting your paper to any journal. It is also the duty of the reviewer as well as the editors to recheck the manuscript for any intentional or unintentional plagiarism using powerful plagiarism detection software. There are several plagiarism detection softwares, few of them being:

a. Plagiarismdetector.net
b. Turnitin-iThenticate
c. Duplichecker
d. Quetext

However, to avoid plagiarism, certain other measures can be taken up by researchers. They should take adequate time to complete their work rather than doing it without understanding the work completely. The author should avoid copy-pasting from the sources. He/she should cite authentic and accurate references and give due credit to the original source. The author should avoid salami-slicing in the pursuit of having more publications under his/her name.

When all the above measures are considered, the author avoids any chance of misrepresentation of hypothesis or any scientific misconduct. This helps a new researcher to present his/her own work in his/her own words which is in line with the rules of good scientific writing.

To avoid plagiarism, attempts should be made at the national level, by the funding agencies, journal editors, academicians, as well as readers. There should be formulation of national policies and laws on the ethical conduct, recording and reporting of public-funded science and technology in both in higher education and R&D sectors, with a time-bound action plan.[11] Attempts should be made at the grassroot level to promote research integrity and ethics in new, young researchers and those who are already established. If India wishes to emerge as global player in science and technology, it is important to achieve international credibility and integrity of the scientific research being reported, which currently is much below par. [11] Genuine researchers with good intention for the upliftment will provide a huge leap toward scientific evolution and thus promoting improvement in the quality of literature.

With this, I would like to end my article with a quote by Albert Einstein:

"'Many people say that it is the intellect
which makes a great scientist.
They are wrong: it is character."

UNDERSTANDING COPYRIGHTS IN PUBLICATION

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Abstract

Copyright is a type of Intellectual Property Rights and a legal right obtained by the creator for his original creativity under the judicial law. It protects the original expression of the thought or idea and not the thought or the idea itself. This article makes an attempt to understand in brief the basics of copyright, copyright act in India, its relation to publication, its protection, fair dealings, infringements and challenges faced. With advent in technology, the area under the copyright has also extended and becomes difficult to regulate and control various infringements and protect the work of the creator.

Copyright Introduction

Intellectual property is a category of property which comes from human brain i.e. it includes intangible creations of the human intellect for which protection is given. The different types of Intellectual Property rights are copyrights, trademarks, patents, trade secrets and industrial designs.

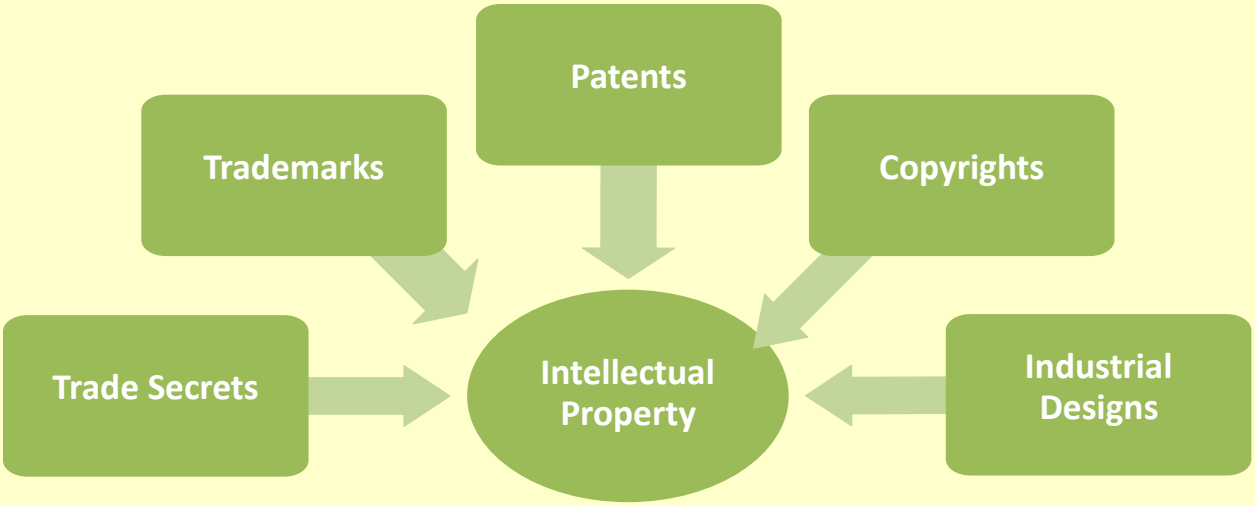
Copyright is a right given by the law to creators of literary, dramatic, musical and artistic works and producers of cinematograph films and sound recordings. It is a bundle of rights that include the right of adaptation, right of reproduction, right of publication, right to make translations, communication to public, etc. It can be exercised only by the owner of copyright or by any other person who is duly licensed in this regard by the owner of copyright. When we talk about literary works – defined as and refers to any written or printed matter. Also, the notes written of the idea or thoughts also gets covered under copyright law.

The World Intellectual Property Organization (WIPO) also lays down provisions for computer programmes in whichever the mode of expression may be in compilation of data or other material in any form for selection or arrangement of their contents that constitute intellectual creations.

It is concerned with the original expression of idea or thought and not with the actual idea or thought.

Copyright Act and India

Copyright Act is not new to India. Pre-independence, it was first enacted in 1914 based on the U.K, Copyright Act. To meet the surging needs and Indian scenario, post-independence under the assent of Dr. Rajendra Prasad (President of India), the first copyright Act was formed in 1957 and came into effect from January 2, 1958. Subsequently, it was amended six times viz. 1983, 1984, 1992, 1994, 1999 and 2012.



The Indian copyright bill of 2012 provides the digital locks.

India is a member of majority of the international copyright laws such as, Berne Convention (1886), Universal Copyright Convention (1951), Rome Convention (1961) and TRIPS. Also, later in 2013, it became a member of WIPO Copyright Treaty and WIPO Performances and Phonograms Treaty.

Under section 13 of the Copyright Act 1957, copyright protection is conferred on:

(a) original literary, dramatic, musical and artistic works;
(b) cinematograph films; and
(c) sound recordings;

Books, computer programs, etc. are protected under the Act as literary works.

Copyright and Publications

Publication means to publish i.e. to make content available to the people generally in the form of printed copies. There is an enormous variety of publication material types of publication viz. articles, book chapter, book, bulletin, flyer, leaflet, journal, newsletter, newspaper, magazine, etc. It also includes, the distribution of copies or phonorecords of a work to the public by sale, other transfer of ownership, rental, lease or lending.

It is also becoming common to now distribute books, magazines, newspapers and so on to people through digital devices by online sources generally referred to as e-publishing.

Publication is one of the form, where copyright is applicable. It is not only applicable to written material but also to the tables, data produced from individual studies, tables, charts, pictures and different forms of expression that are considered to be original are published.

Of all the intellectual property rights relevant to the book publishing industry, copyright remains the most significant. In legal contexts, an author of a work generally is the initial owner of the copyright on the work and one of the copyrights granted to the author is the exclusive right to publish his work. Different authors can use the same historical or scientific data or identical facts to claim the copyright as long as it is not a copy of someone else's work. There is no copyright in ideas, but copying parts of another creator's work, or its arrangement or structure, might be considered plagiarism, although this may be very hard to prove at times.

Copyright Protection & Challenges

There is no law that can protect an idea which has not yet been expressed. The underlying principle of intellectual property law is to protect and reward the products of the mind, but an idea has to be expressed in some form before it can be the subject of legal protection. Thus, the letter must be written; the landscape must be drawn, painted or photographed; the song must be taken down in musical notation or recorded before its creator can claim rights over it. Books often contain more than one copyright: in the literary content (the text) and also in different artistic works, if it contains drawings, paintings or photographs.

Creativity being the keystone of progress as it leads to economic and social development of a society. The protection creates an atmosphere conducive to creativity, which induces them to create more and motivates others to create. Copyright provides protection to the author throughout his lifetime and sixty years in addition after his death.

There are three basic requirements for copyright protection for that which is to be protected must be:

- ✓ a work of authorship
- ✓ original and
- ✓ fixed in a tangible medium of expression**.**

Copyright in a work is considered as infringed only if a substantial part is made use of unauthorizedly. What is 'substantial' varies from case to case. More often than not, it is a matter of quality rather than quantity. If a lyricist copies a very catching phrase from another lyricist's song, there is likely to be infringement even if that phrase is very short.

Publishers as well as authors face the many challenges of infringement of in many situations, some of which are as follows:

- Making infringing copiers for sale or hire
- Distributing infringing copies for the purpose of trade or to such an extent so as to affect prejudicially the interests of the owners of intellectual property rights
- Public exhibition of infringing copies by way of trade
- Importation of infringing copies into the country of origin, etc.

In the interest of the users and for the good of society at large, some of the acts may not be considered an infringement of intellectual property rights which is commonly termed as fair dealing. Some of these include:

- ✓ Research
- ✓ Criticism or review
- ✓ Backup copies on a computer
- ✓ Reporting current events
- ✓ Report of judicial proceedings
- ✓ Use by teacher in course of instructions
- ✓ Answer in an examination, etc.

Many challenges have been posed by the digital environment for copyright owners by upsetting the balance between various interest groups in terms of accessing and reproducing copyright material in much easier and faster manner.

For the policy makers, it is prudent to strike a balance between the copyright and the demand of users for access to those works. Technological advances and advent of photocopying, pages from creative works,

both scientific and creative are copied with immunity, with no control of any kind whatsoever, putting the creator and the publisher of the work at great loss in economic terms as well as ownership.

Copyright protection commences the moment a work is created, and its registration is optional. However, it is always advisable to obtain a registration for a better protection.

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TRANSPARENCY IS THE KEY: A SHORT ARTICLE ON CONFLICT OF INTEREST IN SCIENTIFIC RESEARCH

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Conflict of interests

Conflict of interest has been defined as "a set of conditions in which professional judgment concerning a primary interest (such as patients' welfare or the validity of research) tends to be unduly influenced by a secondary interest (such as financial gain)." A conflict of interest is a situation, not a behaviour, and there is nothing wrong with having one. (Smith, 1998). For those who must make expert decisions on behalf of others, conflicts of interest are a problem; therefore, their primary interest is the well-being of those who depend on their judgments. For researchers, it is the scientific community and the general public, who make decisions based on their study findings. Conflicts of interest differ from ethical dilemmas in that only one interest has priority—the main or professional interest—and attempts are made to ensure that secondary interests do not overpower, or tend to dominate, the primary interest. (Bero & Grundy, 2016).

Non-financial conflicts

Conflicts of interest are not limited to financial matters; they may also emerge from personal relationships. To begin, an individual may potentially remove conflict by ending the relationship (which is usually a drastic measure) or, more generally, by reorganising roles and responsibilities or pursuing oversight. Spouses operating in the same lab, for example, often need special approval from the organisation and are not permitted to supervise each other directly. Recusal is a popular technique, but it is far from the only one. Individuals, for example, reveal their partnership and usually decline to review grant applications written by their students, postdocs, collaborators, competitors, or family members. Second, with conflicts of interest resulting from personal relationships, the path of prejudice can almost always be predicted: people will usually support their friends while harming their enemies. Personal relationships, unlike conflicts of interest resulting from financial ties, may lead to conflicts of interest, but their consequences seldom extend beyond the immediate situation. Conflicts of interest arising from partnerships, on the other hand, can be more detrimental for people in positions of authority (such as supervisory or leadership roles) because their impact is greater. (Smith, 1998)

Incentives and professional conduct

Based on insights from everyday human experience, the idea that financial and other rewards have a profound impact on human behaviour seems intuitive. It is undeniable that such rewards will often trump professional judgement. (MacKenzie & Cronstein, 2006). When professional judgement becomes more specialised and less amenable to close supervision, when the decision-making process becomes less straightforward, and when there is a long-standing relationship between the parties, the potential for conflict of interest increases (i.e., manufacturer and the researcher) (Barnes & Florencio, 2002).

Numerous studies have shown that financial benefits and gifts from industry have a direct impact on physician conduct in

clinical practise. Physicians that have been subjected to this are more likely to refer patients for laboratory and radiology testing, surgery, or hospital admission, to suggest that hospital pharmacies stock medicines that have no discernible benefits over existing medications, and to prescribe newer, more costly medications that have no discernible benefits over well-established medications, generic substitutes (Wazana, 2000). Furthermore, such benefits have been shown to promote favourable attitudes toward pharmaceutical reps whose primary goal is to influence physician prescribing practises. (Thompson, 1993).

Similar findings have been made in the study environment. According to Bekelman et al., 23–28% of academic investigators have obtained support from industry, 43% have received gifts, discretionary funding, honoraria, and consulting fees, and one-third have personal financial links with industry sponsors. Furthermore, industry funding tends to be associated with potentially biassed, pro-industry clinical trial results as a result of such relationships. This could be due to research designs that favour positive conclusions, such as the use of placebos (although the FDA sometimes requires this), or it could be due to publication delays and data withholding (as in the case of negative trials). (Bekelman et al., 2003).

Policy options addressing conflict of interest

dynamic combination of interests has often influenced scientific practise in both acceptable and inappropriate ways. However, a major topic of current discussion is whether there are adequate measures in place to prevent financial interests, in particular, from having undue impact on scientific judgement. Consulting fees with private businesses, grants or contracts to finance university research programmes, honoraria, donations, equity stakes, management positions with start-up companies, and revenue streams from intellectual property are only a few of the main sources of financial COIs for today's academic and government researchers. Universities can face institutional COIs as a result of intellectual property holdings and investments in companies that finance research at their institutions, according to increasing concerns. Commentators have expressed concern about a variety of ways in which these COIs could jeopardise scientific research. They, first and foremost, jeopardise the objectivity of scientific journals and the peer review method. This type of effect can vary from overt falsification or deception to more subtle effects on experimental design, test interpretation, and study evaluation. Other factors may include: more research focused on programmes that would support donors financially; fewer data and research materials exchange among scientists; less respect for human and animal research subjects; and less “public interest” work focused on public health and environmental concerns.

University policies for addressing financial COIs currently focus on three major options: disclosure, management and removal of the conflict (through divestiture or recusal).

• The first choice is to make it mandatory for scholars to report their conflicts of interest to one or more of the following groups: university COI commissions, institutional review boards (IRBs), federal support authorities, audience members at oral lectures, and journal readers.The second choice is to create management plans for dealing with COIs that require more than just transparency. For example, if a pharmaceutical researcher has a financial stake in the medicine she's researching, she would not be allowed to be personally involved in hiring patients for a clinical trial (to avoid the risk of her exerting undue influence). One might also require that an external panel, such as a data safety monitoring board (DSMB), review the research protocol and the final statistical analysis to ensure that there are no obvious

flaws. Finally, in cases of especially serious financial COIs, requiring researchers to resolve the dispute, either by refusing themselves from specific research ventures or by divesting themselves of the financial links that cause the conflict, is a third alternative. (Elliott, 2008).

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World Environment Day Celebrations

"Ecorestoration of Degraded Ecosystems: Reimagine, Restore, Recreate"

A webinar was organized on the occasion of World Environment Day on the 5th of June 2021. Dr. Seema Mishra, Director, SIES IIEM spoke about ecological restoration and the tools to bring about restoration of degraded ecosystems. She stated that in India, 55.56 Mha area comes under wasteland, there is 3.8 % tree cover loss (2001 to 2019), 70% of freshwater resources are polluted and about 50 cities rank as most polluted in the world. There are severe impacts of such land degradation. As a solution, she talked about the ecosystem-based approach in which she talked about three things i.e. Re-imagine, Recreate and Restore. She then talked about how implementation of circular economy models in industries are important and the importance of policy tools for ecosystem management for example- Green India mission, vocal for local, ESG etc. She concluded the lecture by discussing the benefits of the ecosystem-based approach which includes biodiversity and ecosystem conservation, social wellbeing as well as sustainable economy.

The second speaker was Dr. Sayali Joshi, Director and CEO of Srishti Eco Research Institute at Pune. She has an experience of over 22 years and is an expert in the field of environment management. She spoke about on Eco Restoration of polluted water bodies for sustainable management of water. Her presentation started with the effects of urbanization on freshwater resources. It talked about how rapid urbanization and industrialization has affected natural water system. She then focussed on the theme of the Environment Day that is re-imagine, recreate, and restore. She talked about advantages of ecological treatment i.e, its sustainable, ecologically robust, ecologically resilient and it is related to ecological evolution. She said living systems should also be included in pollution treatment action. She discussed about point source treatments like Soil scape filter which uses principle of phytoremediation and bioremediation.

The next presentation was a joint one and the speakers were Mr. Ashish Gupta, Deputy General Manager corporate HSSE, BPCL, an expert on environment with several achievements and Dr. Shalini Gupta, senior manager of the corporate R&D center of Bharat Petroleum Corporation Limited in analytical division. They gave a presentation on energizing environment through soil rehabilitation. The first speaker Ashish Gupta talked about the initiatives taken by Bharat Petroleum with respect to water. In Mumbai they have put an STP plant along with RCF where they are recycling water at an extent of 6000 KL per day which is equivalent to 35% of freshwater requirements of the refinery.

Dr. Shalini Gupta talked about the process of soil rehabilitation in an oil spill accident where the soil had to be transferred for treatment to another place and it was done according to the HWM rules 2016. Soil contamination due to hydrocarbon also caused groundwater contamination. The main challenge was to reduce the total hydrocarbon and soil below the threshold value of 0.5% before onset of monsoon so as to avoid contamination of nearby well in

the area. Processes like Sun drying were carried out but it required further treatment and was done with cow dung and poultry manure and results were encouraging as it resulted in almost 50% reduction. The methodology included chemical analysis, addition of microbial consortium, ceiling at regular intervals to facilitate faster degradation, watering to maintain proper aeration and moisture, sampling and phytoremediation. Results showed that the desired amount of 0.5% TPH was achieved in a period of 38 days that is 90% reduction in the amount of TPH. Innovative solutions like this can pave the way for industries towards sustainability. This innovation was awarded and it was filed for Indian Patent.

The program was attended by 45 participants. Dr. Devayani Savant, Deputy Director, IIEM thanked all the delegates for their active participation.

Themes of Previous Issues of Quarterly Newsletter 'The Environment Management'

Volume I: Issue- 1 **Environmental Monitoring and Assessment for Pollution Control**	**Volume III: Issue- 4** **Corporate Social Responsibility in Environment Management and Sustainability**	**Volume V: Issue- 4** **Environment Law and Policy in Sustainable Development**
Volume II: Issue- 1 **Natural Resources and their Management**	**Volume IV: Issue- 1** **Green Jobs for Sustainable Environment Management**	**Volume VI: Issue- 1** **Zero Carbon Emission by 2050: Challenges and Future Prospects**
Volume II: Issue- 2 **Environment Management for Sustainable Development**	**Volume IV: Issue- 2** **Beat Plastic Pollution**	**Volume VI: Issue- 2** **Biodiversity Conservation and Management**
Volume II: Issue- 3 **Water Treatment Technologies**	**Volume IV: Issue- 3** **Waste Management Technologies**	**Volume VI: Issue- 3** **Sustainable Management of River Ecosystem**
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Volume III: Issue- 1 **Wetlands: Conservation and Management**	**Volume V: Issue- 1** **Environment Management Systems in Pollution Control**	**Volume VII: Issue- 1** **Ecopreneurship**
Volume III: Issue- 2 **Green technologies in pollution control and management**	**Volume V: Issue- 2** **Beat Air Pollution**	**Volume VII: Issue- 2** **Ecological Restoration for Sustainable Future**
Volume III: Issue- 3 **Wealth from the Waste**	**Volume V: Issue- 3** **Environmentally Sound Technologies**	**Volume VIII: Issue -3** **Research and Publication Ethics**

Previous issues of newsletter are available on www.siesiiem.edu.in

National Summit on Current Opportunities in Environment Management and Sustainability

SIES IIEM has organized a National Summit on "Current Opportunities in Environment Management and Sustainability" on Saturday, July 31, 2021. Dr. Seema Mishra, Director, delivered Welcome address. Prof. N. C. Gupta, Dean Guru Govind Singh Indraprastha University, New Delhi gave the first talk on Opportunities for environment professionals in Academics and Research. Prof. Gupta specifically talked about research opportunities in Universities in the Environment Management Sector.

Mr. Manu Maudgal, Director, Clean Power Program at Shakti Sustainable Energy Foundation New Delhi introduced opportunities in renewable sector. Mr. Manu being alumnus of SIES IIEM also introduced his journey from SIES to his present position and motivated students to take up careers in this challenging field.

Mr. Anand Kulkarni, Technical Director, Climate Change and Sustainability Services at KPMG India gave an excellent presentation on "Opportunities for professionals in Environment Management Consultancies". He described the skills required for working in this sector. His presentation was well appreciated by the participants.

Mr. Vishal Bhavsar, Head Corporate Sustainability, Ultratech Cement Ltd. Mumbai, talked on "Career opportunities for professionals in industries". He described the developments in the Sustainability sector over the past few years and the specialized areas for career development.

Dr. Devayani Savant presented vote of thanks.

Environment in News Headlines

Clean, healthy and sustainable environment a universal right: UN Human Rights Council

The United Nations Human Rights Council October 8, 2021, unanimously voted for recognising a clean, healthy and sustainable environment as a universal right in Geneva, Switzerland. If recognised by all, the right would the first of its kind in more than 70 years since the Universal Declaration of Human Rights was adopted by the UN General Assembly in 1948. Inger Anderson, the executive director of the United Nations Environment Programme (UNEP), hailed the development in a statement. She also called on UN member states to consider a similar resolution at the General Assembly. The right to a clean environment was rooted in the 1972 Stockholm Declaration, Anderson noted. It was greatly encouraging to see it formally recognised at the global level five decades later, she added. (Down to Earth, 8th October 2021)

India to have single environmental law soon

The Union environment ministry plans to table a new environmental management law that will subsume the Air Act 1981, Water Act 1974, and the Environment (Protection) Act 1986 and serve as an overarching law for governance of environmental issues in India. (Jayashree Nandi, Hindustan Times, 17th March 2021)

BARC develops superabsorbent cotton capable of tackling oil spills

The Bhabha Atomic Research Centre (BARC), the premier nuclear research institute based in Mumbai, has developed a highly efficient super-hydrophobic (water disliking) and super-oleophilic (oil liking) cotton by radiation technology. “There is no absorbent cotton currently available that can remove floating oil from the BARC develops superabsorbent cotton capable of tackling oil spills.

This biodegradable superabsorbent can be used multiple times — around 50 to 100. In December 2020, an Indian patent was granted on this unique superabsorbent and the technology was transferred to a private company. The "superabsorbent cotton" has been developed by Dr Subhendu Ray Chowdhury, a scientist working in Isotope and Radiation Application Division, BARC and he has been conferred with National Award for Technology Innovation, 2019 .

The material was developed by bio-inspired molecular-scale surface engineering through tuning of surface roughness (topography) and surface energy with the help of radiation-assisted covalent integration. Typically, one gram of the material can pick up a minimum of 1.5 kg of oil from water media which can be recollected by simple squeezing or compression from the superabsorbent cotton.

https://www.deccanherald.com/science-and-environment/barc-develops-superabsorbent-cotton-capable-of-tackling-oil-spills-1011998.html

UNESCO ‘eDNA’ initiative to ‘unlock' knowledge for biodiversity protection

To understand the richness of biodiversity across World Heritage marine sites, the UN scientific organization launched on Monday a project to protect and preserve biodiversity, based on the study of environmental DNA - cellular material released from living things into their surroundings.
https://news.un.org/en/story/2021/10/1103352

Forthcoming Event

Prakkathan: An ecofest on sustainability will be organized in February 2022

Articles, photos etc. are invited for next issue (October-December, 2021) of the Newsletter on the theme “Youth for Environment Management’.

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