

Plagiarism, Research Integrity, Generative AI, and Scholarly Communication

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Research Integrity, ChatGPT, and Scholarly Communication

- In recent years, the scientific community has witnessed several instances of retracted research papers due to the evidence found of scientific misconduct after those papers were published. This presentation will highlight the importance of academic and scientific integrity in the progress of global research. Whether you are writing a research paper or completing an assignment for your class, it is extremely important to provide proper credit to various sources of information (journal article, conference paper, presentation, book chapter, a web site, images, or any other types of resources) that were used in projects or assignments. **Using various examples of breaches in academic misconduct, or retracted papers from published literature, violations in scientific integrity and academic misconduct are explained, and possible hindrances and obstacles to scientific progress are illustrated. Their consequences can be extremely damaging in career promotion and future research collaborations. With the advent of AI tools such as ChatGPT, it is even more important to scrutinize Research Integrity from the perspectives of scholarly communication and Responsible AI.**



Introduction to Information Resources – Drexel University Libraries



Drexel University Library
website

<http://www.library.drexel.edu>

Using

<http://libguides.library.drexel.edu/chemical>

Information



Finding quality information
Using **DragonSearch** in
library website

Electronic handbooks

- Develop background information
- Using ebooks

Databases, Journal Articles

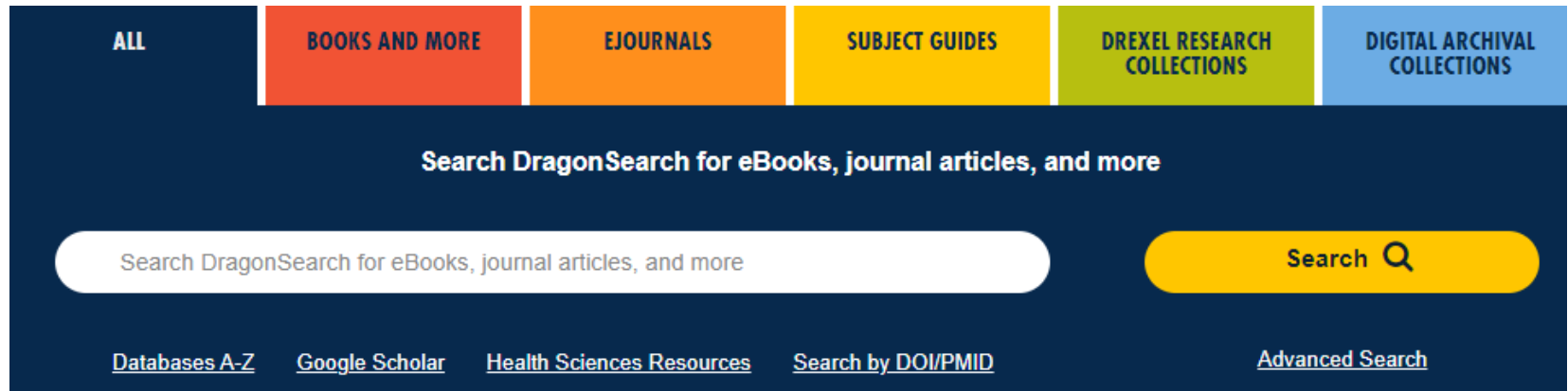
Citations and References



Drexel University
Libraries

Using DragonSearch

- [DragonSearch](#) is the discovery search tool for authoritative information resources, including books, articles, databases, library guides and research collections.
- Learn more about DragonSearch - See [video tutorials](#).



- Books (physical and Online)
- Electronic Databases
- Journal articles using various subject based resources

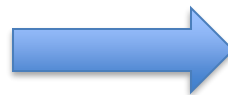
Just Ask!

- Need something?
- Not sure?
Chat, email, call...



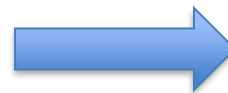
QUICKLINKS

- Reserve an Individual Seat in the Library
- Reserve a Group Study Room
- Printing at the Libraries
- Hours
- My Library Account
- Borrow from other libraries
- Browse Subject Guides**



GET HELP

- > LIBRARY FAQs
- > COURSE RESERVES
- > CONTACT US
- > LIBRARIES SYSTEM STATUS ALERTS



CHAT

Chat with Drexel Libraries!

Type your question in the box below and press Enter to start chatting.

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Drexel Libraries' Subject Guides

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Arts & Sciences - Humanities	Arts & Sciences - Sciences
Arts & Sciences - Social Sciences	Biomedical Engineering
Business and Economics	Computing and Informatics
Education	Engineering
Entrepreneurship	Food & Hospitality
Media Arts & Design	Medicine
Nursing and Health Professions	Public Health

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Databases A-Z List

Full list of Databases the library subscribes to, including trial access.

[Go to A-Z List](#)

Special Topics Guides

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DragonSearch

Finding research papers on **Climate Change**

Drexel UNIVERSITY LIBRARIES

RESEARCH ARCHIVES SERVICES NEWS & EVENTS ABOUT

ALL BOOKS AND MORE EJOURNALS SUBJECT GUIDES DREXEL RESEARCH COLLECTIONS DIGITAL ARCHIVAL COLLECTIONS

Search DragonSearch for eBooks, journal articles, and more

Climate Change Search

[Databases A-Z](#) [Google Scholar](#) [Health Sciences Resources](#) [Search by DOI/PMID](#) [Advanced Search](#)



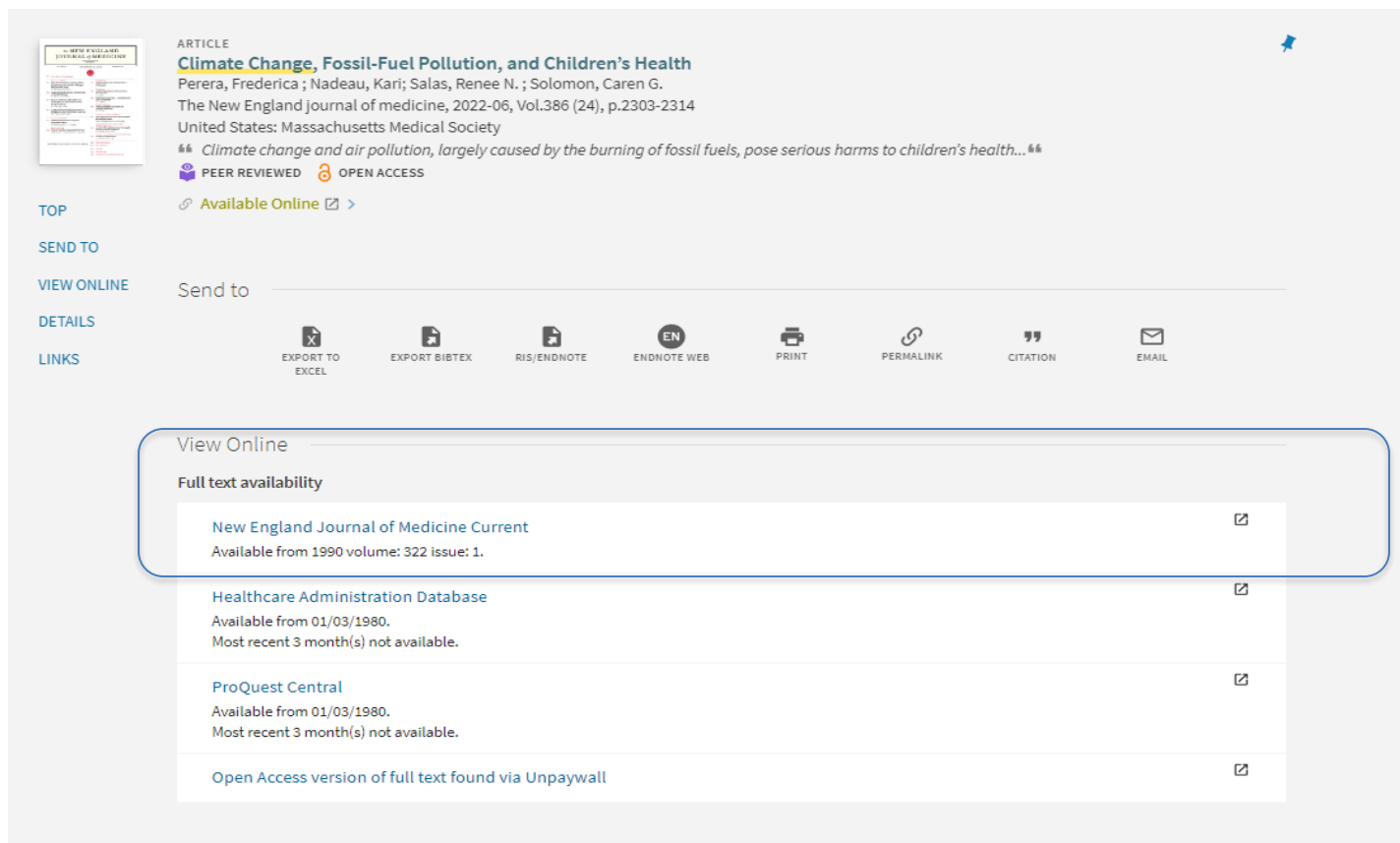
Finding papers using DragonSearch

The screenshot displays the DragonSearch interface with the following elements:

- Active filters:** Peer-reviewed Journals X, Articles X, Years: 2020-2025 X. A blue circle highlights this section.
- Remember all filters:** A checkbox that is currently unchecked.
- Reset filters:** A button to clear the active filters.
- Refine Your Results:** Includes options for "Add results beyond your library's collection" (unchecked), "Search in Full Text" (checked), and "Sort by Relevance".
- Show Only:** Includes "Available online" and "Open Access".
- Subject Terms:** Lists categories like "Science & Technology (567,904)", "Life Sciences & Biomedicine (379,133)", and "Environmental Sciences & Ecology (206,715)".
- Creation Date:** A dropdown menu.
- Author/Creator, Collection, Journal Title, Language:** Additional filter categories.
- Search Results:** Shows three articles. The first article is titled "Transformative experience in an informal science learning program about climate change" and is highlighted with a blue arrow. The second article is "Corporate promotion and climate change: an analysis of key variables affecting advertising spending by major oil corporations, 1986–2015". The third article is "Climate Change, Fossil-Fuel Pollution, and Children's Health".
- Page Information:** "0 selected PAGE 1 1-10 of 810,442 Results".
- Preferred Disciplines:** A toggle switch that is currently turned off.



Getting Full Text paper



The screenshot shows a journal article page. On the left is a sidebar with navigation links: TOP, SEND TO, VIEW ONLINE, DETAILS, and LINKS. The main content area includes the article title, authors (Perera, Frederica; Nadeau, Kari; Salas, Renee N.; Solomon, Caren G.), journal information (The New England Journal of Medicine, 2022-06, Vol.386 (24), p.2303-2314), and a quote: "Climate change and air pollution, largely caused by the burning of fossil fuels, pose serious harms to children's health...". Below the quote are icons for PEER REVIEWED and OPEN ACCESS, and a link for Available Online. A 'Send to' section contains icons for EXPORT TO EXCEL, EXPORT BIBTEX, RIS/ENDNOTE, ENDNOTE WEB, PRINT, PERMALINK, CITATION, and EMAIL. A 'View Online' section is highlighted with a blue border and contains a table of full text availability options.

ARTICLE

Climate Change, Fossil-Fuel Pollution, and Children's Health

Perera, Frederica ; Nadeau, Kari; Salas, Renee N. ; Solomon, Caren G.
The New England Journal of Medicine, 2022-06, Vol.386 (24), p.2303-2314
United States; Massachusetts Medical Society

“ Climate change and air pollution, largely caused by the burning of fossil fuels, pose serious harms to children's health...”

PEER REVIEWED OPEN ACCESS

[Available Online](#) >

TOP

SEND TO

VIEW ONLINE

DETAILS

LINKS

Send to

EXPORT TO EXCEL EXPORT BIBTEX RIS/ENDNOTE ENDNOTE WEB PRINT PERMALINK CITATION EMAIL

View Online

Full text availability

New England Journal of Medicine Current Available from 1990 volume: 322 issue: 1.	🔗
Healthcare Administration Database Available from 01/03/1980. Most recent 3 month(s) not available.	🔗
ProQuest Central Available from 01/03/1980. Most recent 3 month(s) not available.	🔗
Open Access version of full text found via Unpaywall	🔗



Tutorials

<https://libguides.library.drexel.edu/tutorials>

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TUTORIALS: HOME

Self-help for some popular library-related questions.

Getting started



Library 101 (Module)

Library 101 is a tutorial designed to introduce learners to the fundamentals of working with library research. The module takes an estimated 30-45 minutes to complete, and covers topics such as connecting to the full text of items, forming a research strategy, and when and how to format citations.



Using Dragon Search (2:21)

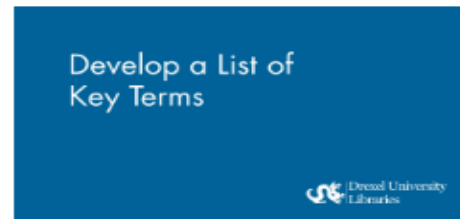
Learn how to use Drexel University Libraries search tool DragonSearch. Use DragonSearch to find books, articles, and more content available through DUL. See how to search, save, and cite material.



Connecting to Full Text (3:37)

Locate the full text of books, articles, and other works in Drexel Libraries' collections.

Searching



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Authenticity, Plagiarism and Research Integrity

- Authenticity
- Academic Integrity
 - Teaching and Learning
 - Plagiarism implications
- Research Integrity
 - Experiments, Results, Data and Publications
 - Implications from AI in scholarly communication



Academic Integrity Resources – Drexel University

[Academic Integrity Resources](#)

“Drexel University expects all members of its community to uphold the highest values of academic integrity. In upholding these values, the University is committed to investigating any allegation of violations of academic integrity against a student. Violations include, but are not limited to: plagiarism, cheating, fabrication, and academic misconduct.”



So What?



Professors want to see **your own** work.



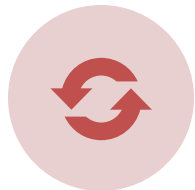
Learning in the US includes **understanding** concepts and ideas and explaining them to others.



Writing must be in **your own** words.



Cheating on tests is forbidden.



Reusing a paper is forbidden.



Citing Information



Why?



How?



Academic module on Academic Integrity

- Learning module on Academic Integrity. It focuses on APA citation style, and the examples are public health related, but the essential content would work for grad students in any discipline.
- <https://services.library.drexel.edu/academic-integrity/#/>.



Academic module on Academic Integrity

- By the end of this tutorial, which should take between 60-90 minutes to complete, you should be able to:
 - Define and identify instances of plagiarism
 - Recognize when a source needs to be cited
 - Distinguish between quoting, paraphrasing, summarizing, and generalizing in a citation
 - Craft in-text and full citations in APA format
 1. [What is plagiarism?](#)
 2. [When and what do we cite?](#)
 3. [How do we cite? Part 1, overview](#)
 4. [How do we cite? Part 2: APA style](#)



When do I need to cite?

When quoting directly from the text.

(Use quotation marks and cite your source.)

Do not use quotation marks, but still cite if you:

Paraphrase (*restate*)

Summarize

Provide facts *that are not common knowledge.*



Citing Information

Directly Quote:

Aulet theorizes that innovation "is not a sum of invention and commercialization, but a product" (8). Without an idea of how to create and market a new idea it is just inventive and cannot be commercial. To be innovative a company must have a grasp of both worlds and be able to create new ideas and sell them to the right people.

Summarize or Paraphrase or a Fact:

When starting a business that you want to be innovative there must be an idea that is commercial and inventive (Aulet 8). Both parts of this formula are important when starting a new company or business. A new company that can market and sell a product that is not new, or novel is just another business, it is not innovative.

Aulet, Bill. *Disciplined Entrepreneurship : 24 Steps to a Successful Startup*. Somerset, NJ, USA: John Wiley & Sons, 2013. ProQuest ebrary. Web. 15 July 2015.

Are citations enough?

- Citation must be accompanied by a *bibliography of sources*
- You must cite **ALL** types of sources
- Do not list sources that you have not read. (*fabrication*)

When in doubt, cite your source.



Reasons to Cite Your Sources

- Establish the credibility of your work
- Acknowledge use of other's ideas and clearly distinguish them from your own
- Receive credit for what you *have* done
- Place your ideas within the greater academic dialogue
- Allow the reader to find your sources



And most importantly . . .

**Using citation style correctly helps you
avoid plagiarism.**



Scientific Misconduct – Conduct of Research Policy at Drexel University

“Scientific misconduct is defined as fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the scientific community for proposing, conducting, or reporting research.”



Scientific Integrity Matters

“Scientific integrity is increasingly being called into question as the media bring to light cases of “fraud”. Industrial players are consequently worried about the reliability of results delivered by research centers, and funding and evaluation agencies as well as public research organizations and higher education institutions are setting up new internal units to combat “scientific misconduct”

Source: Paradeise, C., & Filliatreau, G. (2021). Scientific Integrity Matters. Minerva (London). <https://doi.org/10.1007/s11024-021-09440-x>



Research Integrity and Scientific Misconduct

- https://grants.nih.gov/policy/research_integrity/what-is.htm

NIH defines it:

What is Research Integrity?

Failing to uphold research integrity undermines the public's confidence and trust in the outcomes of NIH supported research. Research integrity includes:

- the use of honest and verifiable methods in proposing, performing, and evaluating research
- reporting research results with particular attention to adherence to rules, regulations, and guidelines
- following commonly accepted professional codes or norms

Shared values in scientific research

- **Honesty:** convey information truthfully and honoring commitments
- **Accuracy:** report findings precisely and take care to avoid errors
- **Efficiency:** use resources wisely and avoid waste
- **Objectivity:** let the facts speak for themselves and avoid bias



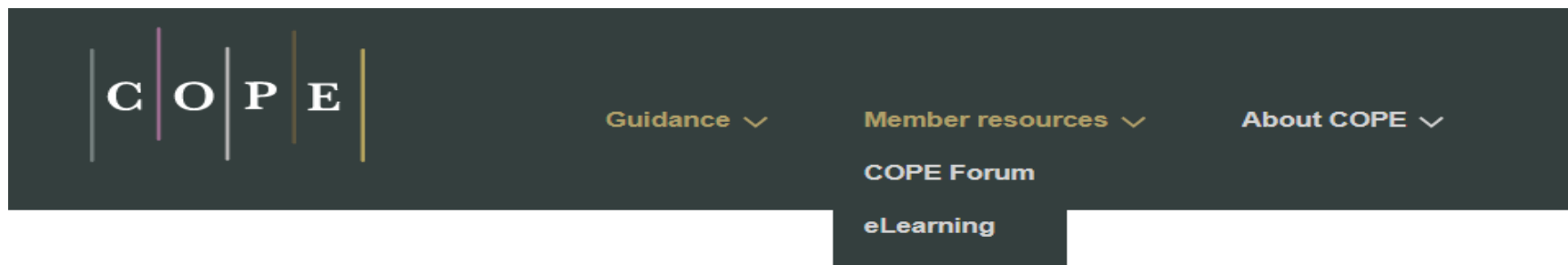
What is Retraction and why it happens?

What is Retraction Watch database?

- Why Retraction happens?
 - After the article was published, evidence of misconduct, plagiarism, data fabrication and manipulation, etc. was found after investigation based on a complaint.
 - Results in formal withdrawal of this paper
 - “Enago Academy has published several articles on scientific misconduct and its dire consequences (retraction, loss of credibility, job loss, etc.). See <https://www.enago.com/academy/article-retractions-affect-researchers/>



COPE – Committee on Publication Ethics



Home / Resources / Guidelines

Retraction guidelines

DOI: <https://doi.org/10.24318/cope.2019.1.4>

COPE (Committee on Publication Ethics) is committed to educating and supporting editors, publishers and those involved in publication ethics with the aim of moving the culture of publishing towards one where ethical practices become a normal part of the publishing culture



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COPE Article Retraction Guidelines

Source: <https://publicationethics.org/node/19896>

Editors should consider retracting a publication if:

- They have clear evidence that the findings are unreliable, either as a result of major error (eg, miscalculation or experimental error), or as a result of fabrication (eg, of data) or falsification (eg, image manipulation)
- It constitutes plagiarism
- The findings have previously been published elsewhere without proper attribution to previous sources or disclosure to the editor, permission to republish, or justification (ie, cases of redundant publication)
- It contains material or data without authorisation for use
- Copyright has been infringed or there is some other serious legal issue (eg, libel, privacy)
- It reports unethical research
- It has been published solely on the basis of a compromised or manipulated peer review process
- The author(s) failed to disclose a major competing interest (a.k.a. conflict of interest) that, in the view of the editor, would have unduly affected interpretations of the work or recommendations by editors and peer reviewers.



Search and find retracted papers as teaching and learning examples

Source: <https://www.the-scientist.com/news-opinion/retraction-watch-launches-its-database-of-papers-65003>

Home / News & Opinion

Retraction Watch Launches Its Database of Papers

It includes more than 18,000 papers and conference materials that have been retracted since the 1970s.

Oct 26, 2018
ASHLEY P. TAYLOR



On Thursday (October 25), the blog *Retraction Watch*, which tracks problematic scientific literature, released an online [database](#) of more than 18,000 papers and conference materials that have been retracted since the 1970s.

ABOVE: © ISTOCK.COM, TARIK KIZILKAYA

The journal *Science* partnered with *Retraction Watch* to analyze the catalog. The upshot, *Science* concludes, is that although the number of retractions per year has risen in recent decades, that might reflect more policing of science.

The Retraction Watch Database –searching for ‘misconduct’ <http://retractiondatabase.org/>

← ↻ ⚠ Not secure | retractiondatabase.org/RetractionSearch.aspx? 🔍 ☆ EN SC 🔗 🌟 📁 🌱

[Login](#)

Version: 1.0.6.0
ISSN 2692-465X

The Retraction Watch Database
Please see this [user guide](#) before you get started.
And please consider a [U.S. tax-deductible donation](#) to allow us to continue to update and make this resource available.

Author(s): <input type="text" value="Type to search"/>	Country(s): <input type="text"/>	Original Paper	
Title: <input type="text" value="Type to search"/>		From Date: <input type="text"/>	To: <input type="text"/>
Reason(s) for Retraction: <input type="text"/>		PubMedID: <input type="text"/>	mm/dd/yyyy
Subject(s): <input type="text"/>	Article Type(s): <input type="text"/>	DOI: <input type="text"/>	
Journal: <input type="text"/>		Retraction or Other Notices	
Publisher: <input type="text"/>		From Date: <input type="text"/>	To: <input type="text"/>
Affiliation(s): <input type="text"/>		PubMedID: <input type="text"/>	mm/dd/yyyy
Notes: <input type="text"/>		DOI: <input type="text"/>	
URL: <input type="text"/>		Nature of Notice: <input type="text"/>	Paywalled: <input type="text"/>

[Clear Search](#) Search



Retraction Watch items - example

‘Mistakes were made’: Paper by department chair earns expression of concern as more questioned

A 14-year-old paper has earned an expression of concern after an anonymous whistleblower found evidence of image duplication in the work.

The authors have had images from several more papers flagged on PubPeer. The corresponding author, Kelly McMasters, is chair of the Hiram C. Polk, Jr., MD Department of Surgery at the University of Louisville School of Medicine in Kentucky.



Kelly McMasters



Search strategy to find retracted papers

Search

Search discovery platforms such as **Summon** or in databases such as **Google Scholar**, **ScienceDirect** and **Web of Science**

Try


Try keywords such as

- "Article retracted"
- "This article has been retracted"
- "Sloppy Research"
- "Scientific fraud"
- "Notice of retraction"
- "Retracted"
- "Retracted article"
- "Retraction"
- "Retraction of article"

Source: Guide to Science Information Resources: What is a Retraction?, Florida Atlantic University Libraries



Example: Google Scholar

Google Scholar "Retracted article" 



Articles About 26,600 results (0.14 sec)

Any time
Since 2024
Since 2023
Since 2020
Custom range...


Sort by relevance
Sort by date

Any type
Review articles


include patents
 include citations
 Create alert

[PDF] **Retracted article**
X Wang, W Xu, G Hu, S Xia, Z Sun... - Scientific ..., 2021 - asp-eurasipjournals.springeropen ...
With the in-depth development of the market economy and the acceleration of the process of urbanization, a large number of people have poured into the city, and a large number of ...
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[PDF] **RETRACTED ARTICLE: 5-HTP efficacy and contraindications**
M Hinz, A Stein, T Uncini - Neuropsychiatric disease and treatment, 2012 - Taylor & Francis
RETRACTED ARTICLE: 5-HTP efficacy and contraindications ... RETRACTED ARTICLE: 5-HTP efficacy and contraindications ...
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RETRACTED ARTICLE: Volume therapy in the critically ill: is there a difference?
J Boldt, M Müller, D Mentges, M Papsdorf... - Intensive care ..., 1998 - Springer
Objective: There are still several concerns about the extensive and prolonged use of hydroxyethylstarch solution (HES) in critically ill patients. The effects of volume replacement with ...
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[HTML] **RETRACTED ARTICLE: angiotensin-II-induced oxidative stress elicits hypoadiponectinaemia in rats**
Y Hattori, K Akimoto, SS Gross, S Hattori, K Kasai - Diabetologia, 2005 - Springer
Aims/hypothesis Hypertension, endothelial dysfunction and insulin resistance are associated conditions that share oxidative stress and vascular inflammation as common features. ...
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[HTML] **RETRACTED ARTICLE: Undertreatment of breast cancer in the elderly**
N Rocco, C Rispoli, G Pagano, S Ascione... - BMC surgery, 2013 - Springer
Aims The effect of undertreatment with adjuvant hormonal therapy, chemotherapy or radiation was studied in elderly women with breast cancer. Methods A prospectively maintained ...
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Home > Intensive Care Medicine > Article

RETRACTED ARTICLE: Volume therapy in the critically ill: is there a difference?

ORIGINAL | Published: 07 March 2014

Volume 24, pages 28–36, (1998) [Cite this article](#)

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Access provided by Drexel University

J. Boldt, M. Müller, D. Mentges, M. Papsdorf & G. Hempelmann

247 Accesses 90 Citations 6 Altmetric [Explore all metrics](#) →

This article was [retracted](#) on 23 November 2013

Abstract

Objective: There are still several concerns about the extensive and prolonged use of hydroxyethylstarch solution (HES) in critically ill patients. The effects of volume replacement with HES over 5 days on hemodynamics, laboratory data, and organ function were compared with volume therapy using human albumin (HA). *Design:* Prospective, randomized study. *Setting:* Clinical investigations on a surgical intensive care unit (ICU) of a university hospital. *Patients:* 150 traumatized patients (injury severity score > 15) and 150 postoperative patients with sepsis were analyzed. *Interventions:* Either 10 % low-molecular weight HES (HES-trauma, $n = 75$; HES-sepsis, $n = 75$) or 20 % HA (HA-trauma, $n = 75$; HA-sepsis, $n = 75$) was given for 5 days to maintain the pulmonary capillary wedge pressure (PCWP) between 12 and 15 torr. The entire management of therapy of the patients was performed by physicians who were not involved in the study and blinded to the infusion regimen. *Measurements and results:* In addition to extensive cardiorespiratory monitoring, several routine laboratory parameters for assessing pulmonary, renal, hepatic,



Home > [Intensive Care Medicine](#) > Article



Retraction Note: Volume therapy in the critically ill: is there a difference?

Retraction Note | Published: 23 November 2013

Volume 40, page 145, (2014) [Cite this article](#)

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[J. Boldt](#), [M. Müller](#), [D. Mentges](#), [M. Papsdorf](#) & [G. Hempelmann](#)

 1862 Accesses  2 Citations [Explore all metrics](#) →

 The [Original Article](#) was published on 01 January 1998

Retraction to: *Intensive Care Med* (1998) 24:28–36 DOI 10.1007/s001340050511

The ethics committee at the University of Giessen was approached to verify whether the study described in this article was submitted there for approval. No records prior to 1993 are available due to the terms of the German Data Protection Act, and there is no trace of study approval between 1993 and 1998 (the year of publication). Therefore, approval of the study can be neither confirmed nor denied. With all due consideration, the Editor-in-Chief of *Intensive Care Medicine* has decided to take the precaution of retracting this article.

 1 comment on PubPeer (by: [Gerris Caucasicus](#))



Finding Retracted Papers – ScienceDirect Type: “This article has been retracted”



ScienceDirect

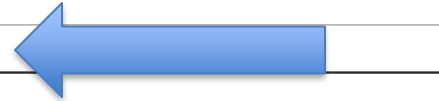
Journals & Books

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Find articles with these terms

"This article has been Retracted"



In this journal or book title

Year(s)

Author(s)

Author affiliation

Volume(s)

Issue(s)

Page(s)

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Search



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ScienceDirect Examples

Erratum ● Full text access

5 Retraction notice to “Interfacial microstructure and properties between epoxy resin and novel organic hybrid graphene oxide modification ultra high molecular weight polyethylene fiber” [Polymer 197 (2020) 122472]

Polymer, 24 March 2023, ...

Xiangzhe Liu, Kui Wang

 [View PDF](#) [Abstract](#) v [Export](#) v

Erratum ● Full text access

6 Retraction notice to “Fabrication and characterizations of a Gadolinium doped terbium gallium garnet crystal for Faraday rotators” [Opt. Mater. 128 (2022) 112225]

Optical Materials, 6 March 2023, ...

Zhe Chen, Xiangyong Wang, ... Chao Yang

 [View PDF](#) [Abstract](#) v [Export](#) v



<https://doi.org/10.1016/j.polymer.2023.125872> ↗

Refers to

RETRACTED: Interfacial microstructure and properties between epoxy resin and novel organic hybrid graphene oxide modification ultra high...

Polymer, Volume 197, 27 May 2020, Pages 122472

Xiangzhe Liu, Kui Wang

 [View PDF](#)

This article has been retracted: please see Elsevier Policy on Article Withdrawal (<https://www.elsevier.com/about/policies/article-withdrawal> ↗).

This article has been retracted at the request of the authors and institution as the research was published without the required approvals of the responsible authorities where the work was carried out, and therefore did not comply with both institutional policies and Polymer's own policies for publication.



<https://doi.org/10.1016/j.optmat.2023.113551> ↗

Refers to

RETRACTED: Fabrication and characterizations of a Gadolinium doped terbium gallium garnet crystal for Faraday rotators

Optical Materials, Volume 128, June 2022, Pages 112225

Zhe Chen, Xiangyong Wang, Jun Wang, Chao Yang



View PDF

This article has been retracted: please see Elsevier Policy on Article Withdrawal (<http://www.elsevier.com/locate/withdrawalpolicy> ↗).

This article has been retracted at the request of the Authors.

The paper is retracted upon the authors' request because it was concurrently published in two different journals due to the authors' misinterpretation of the journal's publishing policy. For this, the authors apologize to the scientific community and to the readers of the journal.



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How would Researchers see the Retracted paper pages – Implications?



PRE-CLINICAL SCIENCE

The Journal of
Heart and Lung
Transplantation
<http://www.jhltonline.org>

ICAM-1 promotes the abnormal endothelial cell phenotype in chronic thromboembolic pulmonary hypertension



Jennifer Arthur Ataam, PhD,^{a,b} Olaf Mercier, MD, PhD,^{a,c} Lilia Amran, MSc,^a Myriam Amsellem, MD, PhD,^{a,b} Joanna Arthur Ataam, MSc,^a Stephanie Arthur Ataam, MSc,^a Julien Guihaire, MD, PhD,^{a,c} Florence Lecerf, MSc,^a Véronique Capuano, PhD,^a Maria Rosa Ghigna, MD, PhD,^{a,d} François Haddad, MD,^b Elie Fadel, MD, PhD,^{a,c} and Saadia Eddahibi, PhD,^a

From the ^aResearch and Innovation Unit; ^bDepartment of Thoracic and Vascular Surgery and Heart-Lung Transplantation; ^cDepartment of Pathology, Marie Lannelongue Hospital, 133 Avenue de la Résistance, Le Plessis Robinson, France; ^dDepartment of Medicine, Stanford University, Stanford, California; and the ^eUniversité de Montpellier, Montpellier, France.

KEYWORDS:

Chronic thromboembolic hypertension;
Endothelial dysfunction;
ICAM-1;
Adhesion molecules;
Survival signalling pathway

BACKGROUND: Pulmonary endothelial cells play a key role in the pathogenesis of Chronic Thromboembolic Pulmonary Hypertension (CTEPH). Increased synthesis and/or the release of intercellular adhesion molecule-1 (ICAM-1) by pulmonary endothelial cells of patients with CTEPH has been recently reported, suggesting a potential role for ICAM-1 in CTEPH.

METHODS: We analyzed pulmonary endarterectomy specimens from 172 patients with CTEPH and pulmonary artery specimens from 97 controls undergoing lobectomy for low-stage cancer without metastasis.

RESULTS: ICAM-1 was overexpressed in vitro in isolated and cultured endothelial cells from endarterectomy specimens. Endothelial cell growth and apoptosis resistance were significantly higher in CTEPH specimens than in the controls ($p < 0.001$). Both abnormalities were abolished by pharmacological inhibition of ICAM-1 synthesis or activity. The overexpression of ICAM-1 contributed to the acquisition and maintenance of abnormal EC growth and apoptosis resistance via the phosphorylation of ERK, p38 and ERK1/2 and the overproduction of survivin. Regarding the ICAM-1 E469K polymorphism, the KE heterozygote genotype was significantly more frequent in CTEPH than in the controls, but it was not associated with disease severity among patients with CTEPH.

CONCLUSIONS: ICAM-1 contributes to maintaining the abnormal endothelial cell phenotype in CTEPH.

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1053-2498/\$ – see front matter © 2019 International Society for Heart and Lung Transplantation. All rights reserved.
<https://doi.org/10.1016/j.healun.2019.06.010>

Chronic thromboembolic pulmonary hypertension (CTEPH) is a subtype of pulmonary hypertension (PH) resulting from the obstruction of the pulmonary vascular bed by non-resolving thromboemboli.^{1–3} The prevalence of symptomatic CTEPH following acute pulmonary embolism varies from 0.6% to 4.6%.^{1–5}



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Generative AI and implications for teaching and research



ChatGPT and the Implications from AI in teaching and in scholarly communication



In 2022, [ChatGPT](#) was released as a new and powerful tool for professional, academic community and students.



ChatGPT can create texts; statistical analyses; lyrics; computer programs and academic researches.



Find good information from various sources. But are these sources reliable?



In Academic Community, ChatGPT can help:



Brainstorming



Sentence construction



Critical thinking



Accelerating the process of research



Writing, organizing and editing articles



Help to improve their papers



Benefit authors when used responsibly



And more...



On the other hand, there are concerns about:

Early report

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakefield, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dillon, M A Thomson, P Harvey, A Valentino, S E Davies, J A Walker-Smith

Summary

Background We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

Methods 12 children (mean age 6 years [range 3–10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

Findings Onset of behavioural symptoms was associated by the parents, with measles, mumps, and rubella vaccination in eight of the 12 children, with measles infection in one child, and otitis media in another. All 12 children had intestinal abnormalities ranging from lymphoid nodular hyperplasia to pseudopyloritis. Histology showed patchy chronic inflammation. In 11 children and reactive ileal lymphoid hyperplasia in seven, but no granulomas. Behavioural disorders included autism (nine), disintegrative psychosis (one), and possible postviral or vaccinal enterocolitis (two). There were no focal neurological abnormalities and EEG tests were normal. Abnormal laboratory results were significantly raised urinary thymine/uracil acid compared with age-matched controls (p=0.03), low haemoglobin in four children, and low serum IgA in four children.

Interpretation The identified associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time with possible environmental triggers.

Lancet 1998; **351**: 637–41
See Commentary page

Inflammatory Bowel Disease Study Group, University Departments of Medicine and Histopathology (A J Wakefield *msc*, A Anthony *msc*, J Linnell *msc*, A P Dillon *msc*, S E Davies *msc*), and the University Departments of Paediatric Gastroenterology (S H Murch *msc*, D M Casson *msc*, M Malik *msc*, M A Thomson *msc*, J A Walker-Smith *msc*), Child and Adolescent Psychiatry (M Berelowitz *msc*), Neurology (P Harvey *msc*), and Radiology (A Valentino *msc*), Royal Free Hospital and School of Medicine, London NW3 2QG, UK

Correspondence to: Dr A J Wakefield

EARLY REPORT

Introduction

We saw several children who, after a period of apparent normality, lost acquired skills, including communication. They all had gastrointestinal symptoms, including abdominal pain, diarrhoea, and bloating and, in some cases, food intolerance. We describe the clinical findings, and gastrointestinal features, in these children.

Patients and methods

12 children, consecutively referred to the department of paediatric gastroenterology with a history of a pervasive developmental disorder, abdominal pain, and intestinal symptoms (including abdominal pain, bloating and food intolerance), were investigated. All children were admitted to the ward for assessment, accompanied by their parents.

Clinical investigations

We took histories including details of immunisations and exposure to infectious diseases, and assessed the children. In 11 cases, the histories were obtained by the senior clinician (QW-S). Neurological and psychiatric assessments were done by consultant staff (PH, MB) with HMS-4 criteria.¹ Developmental records included a review of prospective developmental records from parents, health visitors, and general practitioners. Four children did not undergo psychiatric assessment in hospital; all had been assessed professionally elsewhere, so these assessments were used as the basis for their behavioural diagnosis.

After bowel preparation, ileocolonoscopy was performed by SHM or MAT under sedation with midazolam and pethidine. Paired frozen and formalin-fixed mucosal biopsy samples were taken from the terminal ileum, ascending, transverse, descending, and sigmoid colons, and from the rectum. The procedure was recorded by video or still images, and were compared with images of the previous seven consecutive paediatric colonoscopies (four normal colonoscopies and three on children with ulcerative colitis), in which the physician reported normal appearances in the terminal ileum. Barium follow-through radiography was possible in some cases.

Also under sedation, cerebral magnetic-resonance imaging (MRI), electroencephalography (EEG) including visual, brain stem auditory, and sensory evoked potentials (where compliance made these possible), and lumbar puncture were done.

Laboratory investigations

Thyroid function, serum long-chain fatty acids, and cerebrospinal-fluid lactate were measured to exclude known causes of childhood neurodegenerative disease. Urinary methylmalonic acid was measured in random urine samples from eight of the 12 children and 14 age-matched and sex-matched normal controls, by a modification of a technique described previously.² Chromatograms were scanned digitally on computer, to analyse the methylmalonic-acid zones from cases and controls. Urinary methylmalonic-acid concentrations in patients and controls were compared by a two-sample *t* test. Urinary creatinine was estimated by routine spectrophotometric assay.

Children were screened for antinuclear antibodies and boys were screened for fragile-X if this had not been done

Plagiarism

Erroneous information

Incorrect citations

Low quality

Ethical considerations

Misconduct

Retractions

Use ChatGPT as a primary source

And more...



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Libraries

Academy and research integrity / Ethical implications

ChatGPT, even being an interesting tool, can bring some ethical issues about integrity and authorship. Authors has innumerable responsibilities. International guidelines about authorship, for example by the Committee on Publication Ethics and International Committee of Medical Journal Editors, stipulate that authors must have:



Read and contributed substantially to a manuscript



Critically revised the content



Approved the published version



Taken responsibility for the integrity and accuracy of the published content

requirements that cannot be fulfilled by crediting authorship to ChatGPT or other AI tools as they are not legal entities. (Rahimi & Abadi, 2023)



Scientific Misconduct

- For the purposes of this policy, **scientific misconduct** is defined as **fabrication, falsification, plagiarism, or other practices** that seriously deviate from those that are commonly accepted within the scientific community for proposing, conducting, or reporting research.
- It does not include honest error or honest differences in interpretations or judgments of data. In addition, the institution reserves the right to require adherence to other definitions of scientific misconduct as required by contractual obligations with external sponsors of research. (Drexel Conduct of Research Policy).

“Ideally, considering any declaration of the contribution of ChatGPT to writing any scientific article should be recognized as publishing misconduct immediately and be retracted.” (Rahimi & Abadi, 2023, p. 1)



Scientists used ChatGPT to generate an entire paper from scratch — but is it any good?

- In this article, published by Nature (July 07th, 2023): [Scientists used ChatGPT to generate an entire paper from scratch — but is it any good?](#) - By designing an autonomous system that fed prompts to the chatbot, researchers produced a paper that was fluent and insightful. Yet they still have concerns.
- AI tools could result in journals being flooded with low-quality papers.
- Researchers can engage in dishonest practices such as *P*-hacking, for which scientists test several hypotheses on a data set, but only report those that produce a significant result.
- There needs to be greater visibility of AI tools in research papers. Otherwise, it will be difficult to assess whether a study's findings are correct.
- (Next two slides, 48 and 49, are screenshots from this article)



Retraction Watch: AI generated diagram, errors lead to distraction

Giant rat penis redux: AI-generated diagram, errors lead to retraction



In an episode reminiscent of the AI-generated graphic of a rat with a giant penis, another paper with an anatomically incorrect image has been retracted after it attracted attention on social media. The authors admit using ChatGPT to make the diagram.

According to the retraction notice published July 12, the article, by researchers at Guangdong Provincial Hydroelectric Hospital in Guangzhou, China, was retracted after “concerns were raised over the integrity of the data and an inaccurate figure.”



With the advent of AI tools such as ChatGPT, and Bing, it is becoming critically important for the Libraries to explore both positive and negative aspects. (Note: Google Bard is not covered. Will explore soon)

I will try to explore from both these angles.

Using queries based on a course assignment

Using queries from the Scholarly Communication Perspectives. For example, Research Integrity, Scientific Misconduct possibilities

Using ChatGPT3.5 and Bing OpenAI



Course assignment example

Note

Note: Used ChatGPT Free version (4.0).

Find

I need to find latest research for my course assignment on the impact of climate change on nature events such as hurricanes, cyclones and flooding in different countries. Find articles using ScienceDirect database.

Repeat

Repeat the same search without using ScienceDirect database.



ChatGPT (4.0) Response: (With ScienceDirect)

ChatGPT 4o ▾

NEW Explore GPTs

Discover custom versions of ChatGPT created for specific use cases like writing, research, and coding.



To find the latest research articles on the impact of climate change on natural events such as hurricanes, cyclones, and flooding in different countries using the ScienceDirect database, follow these steps:

1. Visit the ScienceDirect Website:

- Go to [ScienceDirect](#).

2. Use the Search Bar:

- In the search bar at the top, enter keywords related to your topic. For example, you can use terms like "climate change impact hurricanes," "climate change cyclones flooding," and specify particular countries if needed.

3. Filter the Results:

- Use the filters on the left side of the results page to narrow down the articles. You can filter by:
 - **Year:** To get the latest research, select the most recent years.
 - **Article Type:** Choose research articles, review articles, etc.
 - **Subject Area:** Focus on environmental science, earth sciences, and atmospheric sciences.

4. Access Full Articles:

- Click on the titles of articles that seem relevant. Some articles may require institutional access or purchase. If your institution has access, you should be able to download the full text.



ChatGPT 4.0 Response: (Without using ScienceDirect). Make sure you look at the references)

ChatGPT 4o ▾

NEW Explore GPTs

Discover custom versions of ChatGPT created for specific use cases like writing, research, and coding.



I can help you find the latest research for your course assignment. Let me search for the most recent studies and reports on the impact of climate change on natural events such as hurricanes, cyclones, and flooding in different countries. This will take a moment.

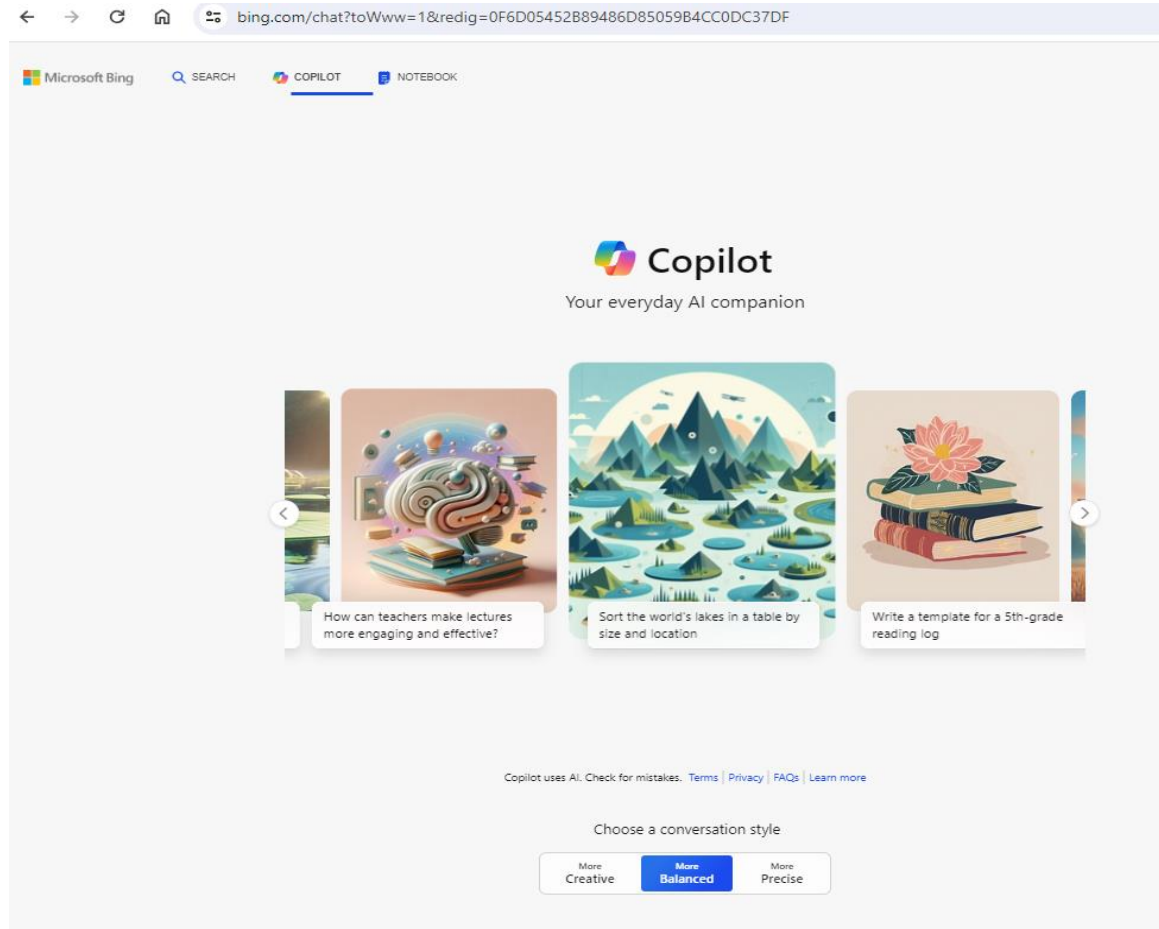
Searched 4 sites

Here are some key findings from the latest research on the impact of climate change on natural events such as hurricanes, cyclones, and flooding in different countries:

- 1. Increased Risk of Compound Flooding:** A study by MIT has developed a new tool for predicting flood risks from hurricanes in a warming climate. The research indicates that the frequency of Sandy-like compound flooding events in New York City could increase from once every 150 years to every 30 years by the end of the century due to climate change and rising sea levels ([ScienceDaily](#)) ([MIT Climate Portal](#)).
- 2. Shift in Tropical Cyclone Patterns:** Research by the National Oceanic and Atmospheric Administration (NOAA) reveals that while the global average number of tropical cyclones has remained constant, their locations have shifted. The North Atlantic and Central Pacific have seen an increase in cyclone activity, while the western Pacific and South Indian Ocean have seen a decrease. This shift is attributed to the influence of greenhouse gases, particulate pollution, and volcanic eruptions ([NOAA](#)).
- 3. Intensification of Storms:** Despite a projected decline in the number of tropical cyclones by 2100, those that do occur are expected to be significantly more severe due to rising sea surface temperatures, which fuel the intensity and destructiveness of tropical storms ([NOAA](#)).
- 4. Socioeconomic Impacts:** The projected increase in coastal populations and assets in flood-prone areas highlights the urgent need for proactive strategies to mitigate the



Using Bing: <https://www.bing.com/chat>



Using Microsoft Bing OpenAI



Copilot

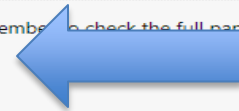
Certainly! Here are some recent research findings related to the impact of climate change on extreme weather events like hurricanes, cyclones, and flooding:

1. "More floods, fires and cyclones — plan for domino effects on sustainability goals":
 - o This article discusses how climate change is causing more extreme events, including storms, droughts, floods, and cyclones.
 - o The risks associated with these hazards increase as the planet warms.
 - o These interconnected risks can disrupt various environmental and social systems, affecting everything from public health to food prices and migration.
 - o [The study emphasizes the need to consider these cascading effects in strategies aimed at achieving the United Nations Sustainable Development Goals \(SDGs\) by 2030](#)^[1].
2. "Climate change brings earlier arrival of intense hurricanes":
 - o Research shows that Category 4 and 5 hurricanes (with wind speeds greater than 131 miles per hour) have been arriving three to four days earlier with each passing decade due to climate change.
 - o [This finding highlights the impact of warming temperatures on hurricane behavior](#)^[2].
3. "Assessing the effects of climate change on tropical cyclones":
 - o NOAA scientists predict that as global temperatures and sea levels continue to rise, the destructive power of individual tropical cyclones (including hurricanes, tropical storms, and typhoons) is likely to increase.
 - o [This assessment evaluates modeling studies based on a 2°C \(3.6°F\) rise in human-caused climate change](#)^[3].
4. "Study: Climate change has been influencing where tropical cyclones rage":
 - o [Recent research indicates that the number of tropical cyclones has been rising in the North Atlantic and Central Pacific since 1980, while declining in the western Pacific and South Indian Ocean](#)^[4].
5. "Physics-based modeling of climate change impact on hurricane hydrodynamics":
 - o This study focuses on the threat posed by intense hurricanes to coastal regions.
 - o [It highlights the need for interdisciplinary modeling to quantify the complex interactions between climate extremes and their cascading effects](#)^[5].

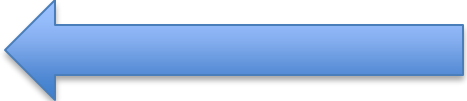
You can explore these articles further to gain insights into the impact of climate change on extreme weather events. Remember to check the full papers on ScienceDirect for more detailed information.

Learn more [1 nature.com](#) [2 sciencedaily.com](#) [3 globalchange.gov](#) [4 noaa.gov](#) [5 nature.com](#)

1 of 30 responses



Bing Chat provides References!

- But are they from ScienceDirect?
- Please note that these articles are just a starting point for your research. You may need to access the full articles through your institution's library or pay for access on ScienceDirect.
- Learn more: (These are references not for ScienceDirect articles) 



Another example question

- Download a peer reviewed scholarly paper on how space junk is impacting future space missions.



Using ChatGPT – Download paper on space junk



ChatGPT

I can't browse the internet or download files, but I can guide you on where and how to find peer-reviewed scholarly papers on how space junk is impacting future space missions.

1.

Google Scholar: A great starting point. Search using keywords like "space junk impact on future space missions" or "orbital debris and space operations".

2.

ResearchGate: A network where researchers publish their papers. You might need an account to access some resources, but it's free.

3.

NASA's Technical Reports Server (NTRS): Offers a wealth of resources related to space, including studies on space debris.

4.

JSTOR and ScienceDirect: These platforms require institutional access for many articles but offer a wide range of peer-reviewed articles.

5.

arXiv.org: Offers open access to e-prints in Physics, Mathematics, Computer Science, Quantitative Biology, Quantitative Finance, and Statistics, including papers on space and related challenges.

6.

Academic Libraries: If you're affiliated with an educational institution, its library often subscribes to databases like IEEE Xplore, SpringerLink, or Wiley Online Library, which offer access to journals and conference proceedings on this topic.

When searching, consider using terms like "orbital debris", "space sustainability", "Kessler syndrome", and "active debris removal" to ●



ChatGPT Response...example

Academic Libraries: If you're affiliated with an educational institution, its library often subscribes to databases like IEEE Xplore, SpringerLink, or Wiley Online Library, which offer access to journals and conference proceedings on this topic.



Bing response to download paper



I'm sorry, but I'm unable to download files or provide direct downloads. However, I can guide you to some peer-reviewed scholarly papers on how space junk is impacting future space missions:

1. "A Comprehensive Study on Space Debris, Threats Posed by Space Debris, and Removal Techniques" by Sangita Mullick, Yashwanth Srinivasa, Ashutosh Kumar Sahu, Jhanvi Tharun Sata. This paper analyzes the threat that space debris poses and some of its removal techniques that have been proposed by scientists and space organizations ¹.
2. "Space Debris Removal: Challenges and Opportunities" published in MDPI. This special issue covers all aspects of space debris removal—the current challenges, methodologies, and opportunities ².
3. "Space Debris as a Threat to Space Sustainability" available on ResearchGate. The paper discusses that the increasing amount of debris brings higher risks to functional satellites and missions ³.

Learn more ¹ papers.ssrn.com ² papers.ssrn.com ³ mdpi.com ⁴ mdpi.com



Generative AI Response implications for students

Then it went on providing various properties **but no mention from where these properties were obtained. Are they real values? What if students cite these properties, and they are not correct, will their final project be valid? Who is the author? Citations?**

Students need to learn how to critically evaluate the credibility of resources, author's credentials, authentic information, etc.

Library Guides on citations, Workshops, and Teaching these skills are now critical!

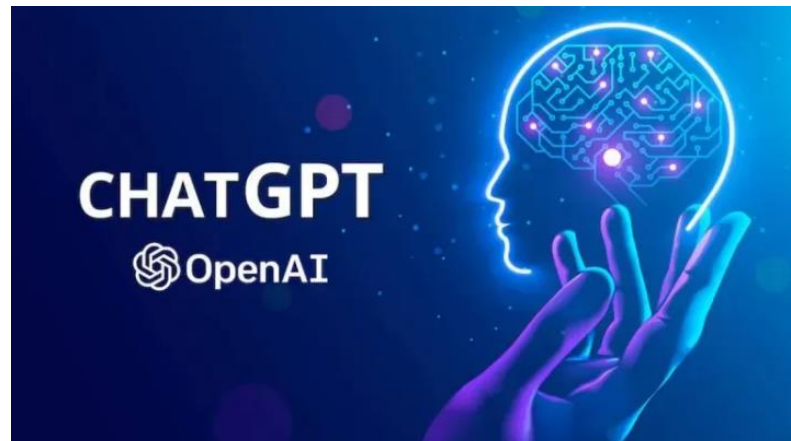


Final words

“Chat GPT is an excellent tool for time and cost saving, writing quality content, generating codes, and improving skill sets.

However, totally relying on it can create many problems that can ultimately damage a person’s credibility. That’s why it is better to use it wisely and not cheat others.”

(Garapati, 2023)



Final Thoughts

- Appreciate and respect research. Quality must be maintained.
- Zero tolerance to scientific misconduct and commit to research integrity
- Ask questions and explore questionable results before making any conclusions.
- Respect Peer Review Process. Give credit to sources used.
- Verify your paper, review your papers where you are listed as one of the authors
- Educate students through rigorous training
 - Teach Responsible Conduct of Research in courses, Assess and evaluate. Workshops for students. Library Guides, etc.
- Contribute to quality, efficient and ethical research.
- Use AI tools such as ChatGPT wisely and responsibly. These tools will continue to evolve. Be aware of ethical issues. Keep updating your knowledge of such tools! I will need to, as well!!!

Explore these videos for more information

- **Drexel Libraries Learning Videos**
 - **Drexel Libraries**
 - <https://www.youtube.com/user/drexellibraries>
 - [Drexel Libraries – YouTube](#) - Jay's webinars on researching information using different databases such as Scopus and Web of Science



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Thank you!

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