

GUIDELINES

2018-2019

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Introduction

Effective communication of research in a variety of contexts is an extremely important aspect of conducting oneself as a professional scientist. *The iScientist* provides the unique opportunity to practice the scientific publication process as an undergraduate student in a well-organized and professional setting. Students will develop a familiarity with the publication process through reporting their original research, accessing and discussing scientific literature, participating in the peer review process, and writing their own academic research papers.

This handbook is intended to provide insight into how *The iScientist* works, and how to go about submitting and publishing work. It describes the entire academic publication process, beginning with writing academic research papers, the editing and review process, and finally publishing papers in the online journal format.

Structure

The iScientist is managed by an editorial board, which consists of eight undergraduate students - six students exclusively from the Integrated Science (iSci) program and two students from the School of Interdisciplinary Sciences, in addition to two iTeach members who serve as Editors in Chief. Each year, all undergraduate positions require re-application, although Level III editors are expected to transition to Senior Editors. Additionally, at the discretion of the Senior Editors, the Editorial Board may appoint individuals to the Senior Advisory Board. The individuals for this board may be chosen if they are familiar with the journal and the peer review process and if it is believed that their involvement on the Editorial Board will improve the operation of *The iScientist*. The **Editorial Board for the 2018-2019 Academic Year** is as follows:

Dr. Sarah Symons	symonss@mcmaster.ca	Editor in Chief
Andrew Colgoni	colgoni@mcmaster.ca	Editor in Chief
James Lai	lajc4@mcmaster.ca	Senior Advisor
Tanya Daniel	danielt@mcmaster.ca	Senior Editor
Sabrina Macklai	macklais@mcmaster.ca	Senior Editor

Sam Marchetti	marchets@mcmaster.ca	Level III Editor
Yajur Iyengar	iyengary@mcmaster.ca	Level III Editor
Megan Tu	tum4@mcmaster.ca	Level II Editor
Mehrunnisa Shiraz	shiram1@mcmaster.ca	Level II Editor
Maiura Muralitharan	muralim@mcmaster.ca	SIS Editor
Katherine Ilnicka	ilnickak@mcmaster.ca	SIS Editor

Dr. Derek Raine, a previous head of the Natural Sciences programme at the University of Leicester, has kindly provided the format of this guidebook. Dr. Cheryl Hurkett assists the Editorial Board with her own expertise as a faculty advisor of the *Journal of Interdisciplinary Science Topics (JIST)*.

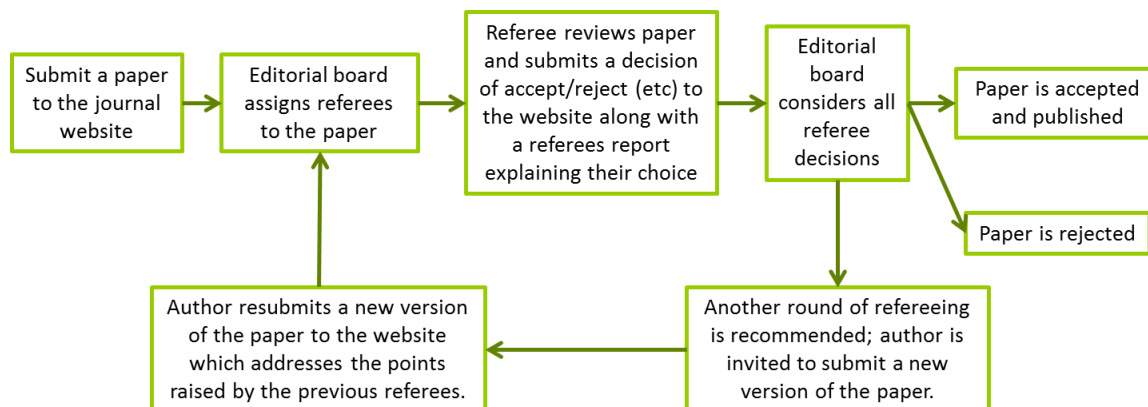
The editorial board meets on a weekly basis throughout the academic term, and is responsible for the following:

- i) Assigning members to the peer-review board
- ii) Assessing and ratifying peer recommendations regarding submissions
- iii) Deciding whether submissions are accepted for publication
- iv) Completing various tasks associated with journal maintenance, funding, enhancement, and public relations

Reviewers are 2nd, 3rd, or 4th year students in the the School of Interdisciplinary Sciences. They are selected by the editorial board at the beginning of the academic year, and serve on the peer-review board until the end of that academic term. As part of the application for peer-reviewer, students may select the subjects with which they are most comfortable and would prefer to review.

As described in the figure below, submissions to the journal are retrieved by members of the editorial board and are then passed anonymously to selected members of the peer-review board. Each submission will be sent to two peer-reviewers, who will review the submissions independently and return them to the editorial board with their edits. The editorial board will consider the suggestions of the peer-review board and subsequently decide to accept

the submission for publication, invite the author to resubmit an updated version with modifications, or reject the submission outright.



Resubmissions may be sent to the original referees or to a new referee at the discretion of the editorial board. Authors of rejected submissions may choose to appeal the decision of the editorial board, as outlined later in this document. Any disputes will be resolved through an appeal to the acting Editor in Chief. Upon being accepted, submissions will be published online in the current issue of the journal. This journal is hosted at <https://journals.mcmaster.ca/iscientist> and provides immediate open access to its contents. Further details regarding the roles of authors, peer-review members, and editorial board members are provided in the following sections.

Submission Formats

The iScientist offers a number of different submission formats, catering to several different styles and publication types. These various formats can be broadly categorized as *short pieces* and *full-length pieces*:

Short Pieces

Short pieces were originally designed to fit the model of an *extended* scientific blog post, such as those posted to the iSci blog **Synopsis**. These pieces are collectively known as *Letters to The iScientist*, of which there are two possible variants: *Scientific Research* or *Scientific Opinion* pieces. In addition, we offer the option of submitting short *rebuttals* to the scientific opinions expressed in these *Letters*, as is common in scientific literature as well as in the scientific blogosphere. We discuss the details of each of these formats below:

Letters to The iScientist

Letter to The iScientist: Scientific Research

These pieces are intended to be 1000-1500 words in length, starting with a 200-250 word summary containing one or two sentences introducing the field, a sentence highlighting the main conclusions of the research using a phrase such as “Here we show...” or equivalent, and ending with one or two sentences that put the findings of the piece into proper context. Do not include a heading for the summary. The remainder of the piece should provide the results of the study and a brief discussion thereof towards the end, but these sections should not be included as subheadings. Unless the piece is about a newly-developed method, do *not* include a detailed discussion of the utilized methods. It is suggested that one or two proper scientific figures be used in these pieces to break up text and summarize information, but the number of images is at the discretion of the author.

Letter to The iScientist: Scientific Opinion

These pieces should be identical to the *Letter to The iScientist: Scientific Research* pieces, in terms of both format and content, with a few exceptions which we detail here. In the summary, include a sentence discussing the main *argument* of the piece, rather than discussing the main *findings*, using the phrase “Here we argue...” or equivalent. Rather than discussing results in the main body, this section of the *Scientific Opinion* piece should contain an outline of the arguments used to reach your central thesis, as well as supporting evidence and a discussion thereof.

Rebuttals

These pieces were intended to follow the rough format of an extended comment or reply to a scientific piece. They are expected to be 500 - 800 words in length, and may be used to refute arguments made in long or short pieces, including those made in previous rebuttals. Rebuttals must *not* address issues of grammar, spelling, or sentence structure, although such issues *should* be reported to the editorial board. A rebuttal must include a summary of the article to which it refers such that it may be published independently of the original article.

Long Pieces

Long Pieces were originally intended to be representative of full-length scientific papers that are published in journals such as *Nature* or *Science*, and had a format similar to such original research articles. Several other submission formats for *long pieces* have since been developed, and *The iScientist* now allows authors to submit their work in four different submission formats based on the specific subjects on which they focus and the research approach they adopt. We discuss these below:

Original Research Articles

These were the originally-conceived long piece submissions and were designed to emulate the format of original research publications in academic journals. They are expected to be between 3000 and 5000 words in length, and must contain (with proper headings) an abstract, 8-10 key terms, an introduction, methods, results, a discussion, and a list of works cited, while a brief conclusion is optional. As with all academic journal submissions, the number of figures in the piece is at the discretion of the author. Supplementary figures must be submitted in the same file as the remainder of the submission, after all other material that is being submitted. Integrated Science students: if the final deliverable for your EP, IP, or thesis took the form of a journal manuscript and you wish to submit this to *The iScientist*, it will be subject to the same rules described in the **Exceptions for PAIx** section below.

Exception for PAIx

There are special guidelines for the submission of journal manuscripts previously used as deliverables for the ISCI 2A18 Plant-Animal Interactions (PAIx) module. Because the final deliverable takes the form of a journal manuscript, academic integrity is an issue that must be considered. For this reason, submissions to *The iScientist* that are heavily based upon the final deliverable in PAIx can only receive a maximum of 2 points for the Integrated Science Scientific Literacy unit. The first point is automatically awarded upon acceptance of the paper for the journal, and the second point is rewarded for a marked mandatory reflection about your experience formatting, submitting your article, receiving editorial feedback, and making revisions.

Although the guidelines state a limit of three authors on original research articles, an exception will be made for PAIx. In order to submit your PAIx

deliverable, you must have the consent and cooperation of all primary authors on the paper. All authors must contribute to the process of formatting and peer review. The details of these contributions should be specifically outlined and provided to the editors through the online application.

Beginning in the 2018/2019 cycle, *The iScientist* will accept a maximum of 3 PAIx papers for the current issue (once per year). These papers will be accepted on a first-accepted basis meaning that once a paper has gone through the peer review process and is accepted, it will be in the current issue of *The iScientist* unless the maximum PAIx papers has been reached, in which case, the accepted paper will go towards the next issue. Thus, it is to the authors' advantage to submit their manuscripts early for review.

Research articles that were inspired by the activities within the PAIx module are not subject to these alternative submission guidelines. These articles must be new content on the topic and cannot contain writing used in the deliverable submission. Such articles do not require all group members to share authorship; however, credit via citation should be given to the unpublished group paper if warranted.

Review Articles

Review Articles are similar to *Original Research Papers* in terms of structure, but differ in content in the sense that they review previous research on a particular topic rather than documenting original research. In *The iScientist*, these articles should be between 4000 and 6000 words in length, and must contain (with proper headings) an abstract, 8-10 key terms, an introduction, a conclusion with future directions, and a list of works cited. In addition, the main body of this type of article must consist of several headings related to the specific topic which the article addresses, but the names of these headings and the number thereof is at the discretion of the author. Similarly, the number of figures in the piece is at the discretion of the author, and all supplementary figures must be submitted in the same file as the remainder of the submission, after all other submitted material.

Mathematical Paper

Mathematical Papers are designed to be similar to *Original Research Papers*, but are modified to be specific to studies regarding theoretical considerations or applications of mathematical concepts. These papers should be 2000 to

4000 words in length and must contain an abstract, 8-10 key words, an introduction, methods, results, discussion, and a list of works cited, while a brief conclusion is optional. In addition, these pieces may have various other headings and subheadings if relevant and useful to the paper, but their names and the number thereof is at the discretion of the author. Similarly, the number of figures in the piece is at the discretion of the author, and all supplementary figures must be submitted in the same file as the remainder of the submission, after all other submitted material. In addition, please include any codes that were used in your research in an appendix.

History of Science Article

This format is the most distinctive of the four long piece formats, and is designed to be somewhat similar to chapters from the Integrated Science publication series *History of the Earth*. This format allows authors to provide a historical perspective of a specific area of focus within science or technology, discuss its importance to both historic and modern societies, and implications thereof for the future. These articles are intended to be between 2000 and 4000 words in length, and must contain a brief summary, a minimum of five key words, a main text, and a list of works cited. The summary must contain the sentence “This article covers the history of (topic) from (start era) to (end era), focusing on (key aspect(s))” and a second sentence which denotes the relevance of this article to modern circumstances and a modern audience. The term summary must be bolded and the summary must continue on the same line following a colon, and the key words must follow in the line under the summary (please see the template for more information). The main text is intended to be designed by the author based on the specific piece and the various headings that may be required for it, although it is recommended that at least two or three subheadings be used in order to break up the text. The number of figures in the piece is at the discretion of the author, although it is recommended that at least two figures be used to break up text and clarify or summarize information. Figures used in this format do not have to be scientific figures, but scientific figures may be used as well, and the content and style of the figure caption should reflect the contents of the figure itself. Note that supplementary figures are *not* permitted in this submission format. Please keep in mind that submitting original or modified chapters from *History of the Earth* is **not** permitted, as this would constitute plagiarism and copyright infringement, but modified History of Science articles submitted for the second year enrichment project *may* be accepted.

Style Guide

Writing Style and Conventions

Submissions that are accepted and published will be displayed online and will thus be available to everyone on the World Wide Web, meaning that it is very important that all aspects of these submissions be professional. Your paper must always be as clear and as straightforward as possible, but not simplified to the point of losing content or technical detail. Avoid excessively lengthy and convoluted sentences as these might confuse the reader and reduce the comprehensibility of your writing. If a writer chooses to use personal pronouns, they must do so in a formal manner. Under no circumstances should the author use colloquialisms, contractions, or other informal language. Take particular care to revise and spell check your work; errors regarding punctuation, spelling and grammar should never appear in a submitted manuscript, and may reduce the likelihood of a submission being accepted for publication.

Templates for several submissions formats are available as sample submissions at the end of this document. In addition, template .docx files for all submissions formats are provided on the journal website for potential authors, and all Integrated Science students will also have access to these templates via theiscientist.com. When entering your submission into the template, be sure to always adhere to the formatting settings of the specific template which you are using, and do not make any alterations to font, font size, line spacing, margins, or otherwise.

Citation Style

All citations in submissions prepared for *The iScientist* must be done in the **Harvard Citation System**, in accordance with the guidelines outlined here: <http://libweb.anglia.ac.uk/referencing/harvard.htm>. Note that the list of works cited included at the end of a submission is not considered as part of the overall word count, while in-text citations *are* considered as such. Currently, *The iScientist* imposes no limit on the number of sources that may be cited in a submission; it is at the discretion of the author and depends on the requirements of a particular paper. Citations are not required for scientific figures displaying original research data, but all other images produced by the author must be cited as (self-generated, year). If an image or figure is obtained from some other source, always be sure to cite this source appropriately in the

figure caption. Citations for images must also appear in the list of works cited, as described in the **Harvard Citation System** style guide (no URLs required).

The articles cited in submissions must be from peer-reviewed scientific literature, including other papers within this journal. Personal communications, works that are not freely available (such as unpublished research projects), and non-trivial details from online sources should not be used under any circumstances. In some cases, such as when citing data regarding hard numerical facts (such as the boiling points of substances, masses of particles, etc.), the use of online data repositories is acceptable, although textbooks are preferred even in these cases. On rare occasions, using trivial citations to news articles or popular culture items is permitted in order to develop some background for a potential article (this might be more common in short pieces such as *Letters to The iScientist*), but under no circumstances should such citations be used to justify scientific facts or evidence.

Guidelines for Authors

Eligible Authors

The iScientist is an undergraduate journal intended to showcase the research of students within the Integrated Science program at McMaster University. However, there are **three** notable exceptions regarding groups who may also be considered for article submission: collaborative authorships between undergraduates within the Integrated Science program and other undergraduate students at McMaster University, graduates of the Integrated Science program, and students within the Natural Sciences programme at the University of Leicester. Individuals or collaborating authors from these groups are eligible to submit to the journal, given that they adhere to the templates provided. The deadlines and requirements regarding submission and peer review that apply to Integrated Science students also apply to those within these groups.

Writing a Paper

The iScientist is intended to be a general interest journal and therefore all papers should be written at approximately a third year undergraduate level. The scientific content of submitted papers does not necessarily need to be groundbreaking, but papers must be original and discuss meaningful results

or ideas, and the applications thereof should be useful to the author and the scientific community in general. If you are interested in publishing results from work you conduct under supervision (e.g., EP, IP, thesis, summer research), you must have permission from your supervisor in order to submit the article, as he or she may wish to publish these results in another format. If you are uncertain if the content of a proposed paper would be acceptable for publication in *The iScientist*, please feel free to contact any of the Editorial Board executives for consultation.

To reiterate, please remember that the purpose of peer review within this journal's application process is not to provide general editing of your article. If your article contains incorrect spelling, or very incorrect grammar, it may be rejected outright; such mistakes are not tolerated by a professional journal. If there are small modifications to be made to grammar and sentence structure, the peer-reviewers will make note of this and suggest that the paper be "accepted with minor modifications". Please attempt to submit your article in its final and most polished form if you wish it to be seriously considered for publication.

Collaborative Authorship

Throughout your degree, you have seen that more often than not, science advances as a collaborative endeavour, and this can be reflected in your work for *The iScientist*. In addition to writing papers individually, you may wish to collaborate on submissions with up to two other individual authors. If you choose to collaborate on a submission, the division of labour for the submission will be entirely at your discretion. Please note this in the Comment for the Editor on the Start page of the submission process.

If you wish to receive marks for your collaborative submission, you must contact the editor in chief as a group in order to discuss the allocation of marks.

Submitting a Paper

To submit a paper, students should first log onto *The iScientist's* website: <https://journals.mcmaster.ca/iScientist>. From the User Home page, clicking on the "New Submission" link will bring you to a series of steps, which are straightforward. First, read and agree to the terms of the Copyright Notice. Then, you may upload your article in the format specified in the **Filename**

Convention section below in this guidebook. Before submitting your paper, make sure to remove identifying information from your file: do not put your name on your paper, including in the header. You should also remove identifying metadata from the file by following the instructions for “Ensuring a Blind Review”, which is accessible beside the upload box, as well as in this guidebook. After this, enter additional data as necessary, and if supplementary files are to be included, upload these as well.

Once your submission is submitted, you should receive an automated email from the website. You will also receive further emails when your article has been peer-reviewed, at which point, you will be able to access the peer-review from the website. If you have any questions regarding submissions, please contact any editorial board member individually or email the editorial board at iscijournal@gmail.com.

Deadlines for submission

There will be a deadline for the submission of new papers and revised papers associated with each editorial board. You will be notified of these deadlines via email. These deadlines are based upon the deadlines for science literacy points. If you are uninterested in obtaining these points for a given term, the deadlines can be more lenient. Please speak to a representative on the editorial board for more details.

Filename convention

All papers should be submitted to the journal site in .doc format. When submitting a paper to the journal you must observe the following naming convention to ensure that papers can be easily tracked:

Year. *Title*, iScientist Submission.

e.g.

2015. *Elucidating the MyD88 Pathway*, iScientist Submission.

2016. *Adaptationists Anonymous*, iScientist Submission.

Responding to peer review comments

Referees will sometimes be critical of your work. They may have technical concerns or questions, or they may express the opinion that your science or writing style could be improved. When reading referee reports, it is important

to remember that the criticisms are professional - not personal - and that you can always use the referee's comments to improve the quality of your paper.

When you receive a critical referee report, you will have the opportunity to amend and resubmit your paper. If the referee's comments are minor, then it is likely that you will simply need to satisfy the editorial board that the amended paper is up to scratch. If the referee had major concerns, then your paper will have to be re-reviewed.

In either case, when resubmitting an amended article, you should write a brief email to the editorial board. This email should explain what you have done to satisfy the concerns of the referee. This is a professional document. It will be used in editorial board meetings to decide the fate of your article, and so it should be written carefully and politely.

Ideally, a critical referee will give suggestions on how to improve your work. If you agree with these suggestions, you must simply amend your article accordingly and list the changes you have made in your email to the editors. Alternatively, you may disagree with the referee's comments. Then, in your email to the editors, you must try to convince the editors and referees that your point of view is correct.

Once the paper has been accepted

Congratulations! If you look at your 'active submissions' you will now see that the paper's status has changed to 'In Editing'. You do not need to take any further action, as the paper will remain 'In Editing' until it is published to the current version of the journal.

Guide for Peer-Reviewers

Reviewers have an essential role in scientific publishing; they maintain scientific standards and ensure mistakes do not appear in the literature. It is the referee's job to provide an independent check of the contents of any article submitted for review.

Referees are asked to check the following:

- The content of each paper should be appropriate for the given style (e.g. original research articles should contain original research while review articles should not).

- The grammar and sentence structure of the paper is satisfactory. Reviews may make detailed notes about this to authors, and make suggestions such as “accept with minor edits” (in regards to grammar) to the editorial board.
- Papers may, where possible, contain a quantitative, technical argument usually expressed in numerical form. (Please note that a chemical reaction mechanism will count as quantitative in this instance).
- Papers should conform to the style guide and be of the correct length for the given document style.

After critically reviewing an article, referees are asked to provide a brief written report for the editors containing:

- *A short summary of the work being reviewed.*
It is a good idea to include evidence that they have verified the arguments or calculations of the submission independently.
- *A critical analysis of the work and suggestions for changes if necessary.*
If you locate any failings in the paper, you need to *clearly* identify them so that the original authors can address them. Remember: any criticism must be *constructive*.
- *A recommendation* on whether or not to publish the article with clearly stated reasons for the recommendation.

In addition, please include a brief note for the authors, which will detail the main flaws in their submission, and what improvements they need to implement in order for the piece to be published following a second round of peer-review. For details regarding reviewer’s notes for authors and editors, please take a look at the examples provided at the end of this guidebook.

It is the referee’s job to maintain standards, so do not be afraid to write critical reviews. Please bear in mind that such criticism must be constructive, professional, factual (where possible) and always written politely. It is important to give the authors clear advice on how to improve their submission, particularly if the recommendation is to resubmit for review.

Once you have been assigned to review a paper by the editorial board, you will receive an email from the Editorial Board, which will provide a deadline by which your review of the paper must be resubmitted to the editorial board. Please consider the following when submitting your review of an assigned paper:

- I. Always refer to this handbook for guidelines on how to review papers. If you have any questions or an unsure of how to proceed, please contact the editorial board.
- II. When you are reviewing, it is strongly recommended that you include comment bubbles throughout the document you are reviewing if you have suggestions regarding specific parts of the paper. You may also use track changes if so desired.
- III. When resubmitting your review of the paper to the editorial board via email, please submit it in .doc or .docx format, and include your name in the filename and at the top of the document in red font. Do not submit your review in PDF format.
- IV. As part of the email in which you are submitting your review to the editorial board, you may submit a recommendation regarding the paper with the following options:

Recommendation	Further actions
Accept submission	Paper will be published to the journal with no further changes.
Revisions required	<p>Paper will be accepted with minor changes.</p> <ul style="list-style-type: none"> • Paper is returned to the original authors for these changes to be made. • No further review is necessary but the author should write an accompanying email to the chair of the editorial board explaining how they have addressed the suggested changes. • Once the changes have been made the paper is published to the journal.
Resubmit for review	<p>Significant changes are required.</p> <ul style="list-style-type: none"> • Paper is returned to the original authors for these changes to be addressed. • The paper must be resubmitted for review.
Resubmit elsewhere	This choice is not relevant to <i>The iScientist</i> .
Decline submission	<p>The paper is rejected with no recourse to revisions. Papers can only be rejected on the following technical grounds. The paper:</p>

	<ul style="list-style-type: none"> • Does not fit any of the possible article styles; it has been copied from the web, module notes etc and is not acceptable. • Does not conform to the format for the given article style or it significantly exceeds the page limit. • Has been copied from the web or course lecture notes (hopefully this is never the case). <p>*Mathematical papers lacking some sort of quantitative content will normally be rejected unless there is good reason to do so and they are of exceptional quality.</p>
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Referees should state clearly the reasons for acceptance, revision or, in exceptional cases, rejection. Minor typographical errors are not grounds for a recommendation of 'resubmit for review': these corrections can be dealt with by the editorial board and the authors. If asking for additional material, referees should bear in mind the length and time constraints associated with doing so. It is not generally within a reviewer's remit to request supplementary material to be submitted.

Ensuring a Blind Peer Review

To ensure the integrity of the blind peer-review for submission to this journal, every effort should be made to prevent the identities of the authors and reviewers from being known to each other. This involves the authors, editors, and reviewers (who upload documents as part of their review) checking to see if the following steps have been taken with regard to the text and the file properties:

1. The authors of the document have deleted their names from the text, with "Author" and year used in the references and footnotes, instead of the authors' name, article title, etc.
2. With Microsoft Office documents, author identification should also be removed from the properties for the file.
 - For Microsoft 2003 and previous versions, and Macintosh versions of Word:
 - o Under the File menu select: Save As > Tools (or Options with a Mac) > Security > Remove personal information from file properties on save > Save.

- For MacIntosh Word 2008 (and future versions)
 - o Under the File menu select "Properties."
 - o Under the Summary tab remove all of the identifying information from all of the fields.
 - o Save the File.
 - For Microsoft 2007 (Windows):
 - o Click on the office button in the upper-left hand corner of the office application
 - o Select "Prepare" from the menu options.
 - o Select "Properties" for the "Prepare" menu options.
 - o Delete all of the information in the document property fields that appear under the main menu options.
 - o Save the document and close the document property field section.
 - For Microsoft 2010 (Windows):
 - o Under the File menu select "Prepare for sharing."
 - o Click on the "Check for issues" icon.
 - o Click on "inspect document" icon.
 - o Uncheck all of the checkboxes except "Document Properties and Personal information".
 - o Run the document inspector, which will then do a search of the document properties and indicated if any document property fields contain any information.
 - o If the document inspector finds that some of the document properties contain information it will notify you and give you the option to "Remove all," which you will click to remove the document properties and personal information from the document.
1. For PDF files:
- With PDFs, the authors' names should also be removed from Document Properties found under File on Adobe Acrobat's main menu.

Standards of the Journal:

Refereeing can be a difficult and often subjective process. Sometimes the results are clear: either a paper is excellent and worthy of publication or there are clear scientific errors that warrant revision if not outright rejection. However, there are also grey areas when a referee or editor will have to use their personal judgement about the suitability of a particular article for publication. Unfortunately this tends to be the case with many of the most

high profile journals (for example *Nature*) where general interest and ‘impact’ are criteria that the referees have to address.

This journal is, in some ways, rather similar. Here the grey areas concern the minimum acceptable standard of publication and it is important that the editorial board should try to provide consistent guidance to authors. When the editors and referees communicate the reasons for their decisions, authors quickly get a feel for the acceptable standards of publication and, soon, each group of authors starts to work to similar standards.

However, the question remains: how do the referees, or the editorial board, determine if a paper meets the minimum standard of publication? Usually, this is simply a matter of common sense: when reviewing a paper, a good rule of thumb is to estimate how long it would have taken you, as a referee, to research and produce each paper. If it is only a matter of minutes, it is probably fair to say that the results presented are too trivial to be worthy of publication, even if they are technically correct.

Finally, although the editorial board and refereeing standards are primarily up to the relevant editorial boards and referees, advice in exceptional cases can always be obtained from the academic members of the journal editorial board and other members of iTeach.

Guide for the Editorial Board

The job of the editorial board is one of the most crucial in the running of the journal. Each week the editorial board will meet to assign referees, consider referee reports and decide whether or not papers should be published. It is the job of the editorial board to provide guidance to authors and referees and to maintain the standards of the journal (as discussed in the Referee Guide above). The editorial board may overrule both referees and authors.

Board Membership:

The editorial board for *The iScientist* is appointed on a yearly basis. The membership for each year’s editorial board is decided at the start of each academic year (preferably in late August or early September) and lasts for the duration of the year. The editorial board consists of six iSci students (two students from levels II, III, and IV), in addition to two iTeach members who serve as Editors in Chief and two representative students from the School of Interdisciplinary Sciences serving in editor positions.

Returning board members have the option of assuming another position at the start of the new academic year with the requirement of a reapplication. It is recommended that Level III Editors graduate to Senior Editors in Level IV and Level II Editors become Level III Editors. Experience with the editorial board is strongly considered when selecting positions for the new academic year. All positions on the editorial board are selected by the current Senior Editors, with help from the Senior Advisor if necessary. If there is a lack of applications from a certain year, editorial board members may exercise their discretion (by consensus) in which years to accept additional applicants from in order to avoid imbalance within the editorial board. Failure to assume one's responsibilities on the editorial board can result in the loss of the position, following one verbal and written warning.

Issue Publication:

The iScientist publishes articles throughout the year as they are accepted and prepared for the journal volume. Published articles are made visible on the website of *The iScientist* in order of acceptance. These articles are collated into a journal volume at the end of the winter academic term (in April) in order to coincide with the publication of *JIST* and to accommodate those who have submitted articles during that term who may be leaving the program subsequently. If funding is available, the journal volume may also be made available in print from once a year, wherein it can be distributed throughout the School of Interdisciplinary Sciences at McMaster University.

Minuting Board Meetings:

One member of the board should volunteer to take minutes detailing all the decisions made at each meeting. It is important that a copy of the minutes (in any format) is posted on *The iScientist* dropbox, so that it can be easily accessed by all board members, and uploading this file is the responsibility of the editorial board.

The following is an example set of editorial board meeting minutes:

Editorial Board 27/02/2015

Board members: A. Shephard, P. Lauman, L. Hayward, A. Valente, A. Dhaliwal, J. Lai

Chairperson (if in attendance): A. Colgoni, S. Symons

New papers submitted and assignment of referees

ScienceOfTasers v01

to be reviewed by AD23 and DS9

MitochondrialBatteries v02 to be reviewed by SF3 and RF7
CarbonNanotubes v01 to be reviewed by LK12 and JH92
ConstructingAPPG v01 to be reviewed by AHG1 and GP2

Editorial decisions

ContainingTheVirus – Accept

The paper is ready for publication as it is.

GeneticFingerPrintProbability v01 – Resubmit for review.

Although referees disagree, the board decided to uphold the comments of LK12 (see referees report). Authors to make changes as discussed and resubmit for review.

SustainableEnergy v02 – Accept with minor revisions.

Formatting changes to be made as explained in referees report. No further review necessary.

WarpDrive v01 – Reject

Need to include more work that is original to the author. The material follows the contents of the Science of Star Trek too closely.

Re-reviews

CrowdControl v02 to be re-reviewed by AD23 and GP2.

Other

Reminder to groups to email chair of forthcoming board with list of changes to resubmitted papers.

DKL45 to chair next board meeting. All email correspondence to be sent to dkl45@le.ac.uk

Board Meetings:

Each editorial board meeting should last at most one hour. Most of the editorial tasks can be completed on-line. At the meeting a staff member will log in to the journal and go to 'USER HOME' > 'Editor' so that the relevant files can be viewed. The main tasks of the editors is to assign referees for the term and consider submissions 'In Review':

- I. **Assigning Referees** - Referees will be selected by the editorial board for each academic term. The board should try to distribute the refereeing

workload equally between students. Only users with editor privileges (i.e. a member of staff) can assign referees; however, they will merely enact the editorial board's decisions and the selections will be carried out 'live' in front of the board.

- II. **Editorial Decisions** - Once the referee's reports have been discussed, the editors must decide whether a paper should be accepted, rejected, resubmitted for review or accepted following minor revision. Again, this requires editor privileges; the member of staff will enact the decisions 'live' in front of the board.

When accepting a paper, the Editorial Board should check that the latest submitted version of the paper is correct and make sure that authors have complied with any requests for changes. An "Accept Submission" decision should then be recorded.

Example Papers and Reviews:

Example Papers

Example *Letter to The iScientist*:

<https://journals.mcmaster.ca/iScientist/issue/view/73>

Example Review:

The Letter to *The iScientist* example provided above was reviewed internally prior to publication. The following is a copy of the review notes, which we use as an example of how review notes should generally be constructed by peer-reviewers:

Note for editorial board only [general information regarding article and publication decision]

The following paper provides a review of evidence gathered over the past 20 years in support of the preservation of biomolecules within dinosaur fossils. It begins with a short introduction about the importance of this research and the relevance of the findings. This is followed by sections about microscopy, immunochemistry, spectroscopy and chromatography, wherein the evidence for preservation gathered using each of these methods is presented and debated. The proposed mechanism by which this preservation may occur is then outlined, after which the implications of this research within various scientific fields is considered and discussed. The final conclusions concisely summarizes the main goal of the article.

I suggest that this article should be accepted with minor revisions. The majority of the content and its structure within this article are admissible by the standards of the iScientist. Slight changes made with regards to grammar and style would increase the clarity of the article.

Note for editorial board and author [specific information regarding necessary revisions]

This article was very well written. The introduction did a good job at presenting the topic in an engaging and relevant manner. It also accurately summarizes the main goals of the articles and the points of evidence from which the author draws. The structuring of the article was well thought and made the presented material very accessible and understandable for the reader. The separation of topics based on experimental technique and the relevant gleaned evidence was more appropriate than an alternative chronological assessment due to multiple experimental sources. Following these sections, the proposed mechanism of preservation and the implications of the research are appropriately placed. The final conclusion concisely addresses the main focus of the article and examines its relevance to other fields of science.

There are a few adjustments that I would suggest concerning grammar and structure. These include the following:

Microscopy, P1, S4: The usage of “~” to indicate an approximate number is not permissible in formal writing (aside from mathematical equations). This should be replaced with the word “approximate”.

Proposed Mechanism of Preservation, P1, S6: The final sentence of this paragraph requires reconstruction. It is suggested that the sentence be replaced by two sentences. The first sentence could list the suggested substances that may protect organics, while the second sentence could outline the chemical mechanism by which these substances would act.

Implications, P1, S1-2: These two sentences seem redundant within the context of the article. At this point, the reader is familiar with the purpose of the article and how evidence continues to accrue. These sentences revert to the assumption that the reader is not aware of this and would not understand

its implication. I suggest that these sentences be removed and reformatted to comprise a portion of the abstract of this piece.

Implications, P1, S5: A comma is required after the phrase “such as peptides”. This should be added, or the sentence should be reformatted.

Implications, P1, S10: This sentence requires reconstruction. The phrase “relationship between peptide sequences and relationship to their function” could be replaced with “relationship between peptides sequences and their function” to enhance flow and clarity.

Overall, I thought that the article provided a novel evaluation the current scientific position regarding the preservation of dinosaur biomolecules in fossils. The information was presented succinctly and the writing was both formal and engaging.