

2017-2018

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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 nine undergraduate students, in addition to two iTeach members who serve as editors in chief. The core editorial board consists of six undergraduate editors—two senior editors (in Level IV), two Level III editors, and two level II editors. The periphery board consists of three members who assist with tasks outside the main editorial processes. These positions are a promotions manager, graphic designer, and workshop coordinator. Details regarding these positions are outlined in the section titled **Board Positions**.

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 and progress of *The iScientist*. These individuals are typically graduates of the Integrated Science program. The Editorial Board for the 2017-2018 Academic Year is as follows:

Dr. Sarah Symons	symonss@mcmaster.ca	Editor in Chief
Andrew Colgoni	colgoni@mcmaster.ca	Editor in Chief
Laura Green	greenlhs@mcmaster.ca	Senior Editor
Varsha Jayasankar	jayasavj@mcmaster.ca	Senior Editor
Sabrina Macklai	macklais@cmaster.ca	Level III Editor
Tanya Daniel	danielt@mcmaster.ca	Level III Editor
Yajur Iyengar	<u>iyengary@mcmaster.ca</u>	Level II Editor
Sam Marchetti	marchets@mcmaster.ca	Level II Editor
Jonathan Panuelos	panueljg@mcmaster.ca	Promotions Manager
Connor MacLean	maclec1@mcmaster.ca	Graphic Designer
Isobel Sharpe	sharpil@mcmaster.ca	Workshop Coordinator

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 & ratifying peer recommendations regarding submissions
- III. Deciding whether submissions are accepted for publication
- IV. Completing various tasks associated with journal maintenance, enhancement, and public relations

Reviewers are 2<sup>nd</sup>, 3<sup>rd</sup>, or 4<sup>th</sup> year students in the Integrated Science program, are selected by the editorial board at the beginning of the academic year, and usually serve on the peerreview board until the end of that academic year. Reviewers in 2<sup>nd</sup> and 3<sup>rd</sup> year have the option to continue as a peer reviewer for the following year(s). As part of their application for the position of peer-reviewer, students may select the subjects with which they are most

comfortable and would prefer to review. More details about peer reviewers are provided in the section titled **Peer Review Board.** 

As described in the figure above, submissions to the journal email address 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 <a href="https://journals.mcmaster.ca/iScientist">https://journals.mcmaster.ca/iScientist</a> 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.

### **Editorial Board Positions**

#### **Senior Editors**

**Description:** The responsibilities of the Senior Editors are to lead the regular operations of the journal. This includes reviewing applications for the Peer Review Board, assigning reviewers to submissions, and making grammatical edits. The Senior Editors are also responsible for promoting *The iScientist* across all years of the Integrated Science program. The Senior Editors communicate journal operations to the Editors-in-Chief on a frequent basis and select the other members of the editorial board. The Senior Editors are expected to attend and lead all weekly meetings.

#### Positions Available: 2

**Term:** 2 years (1 year as Level III editor, and 1 year as Senior Editor)

**Position Requirements:** Be a student in Level IV of the Integrated Science Program and:

- Have a passion for scientific communication and interdisciplinary research
- Demonstrate commitment and dedication to long term projects
- Leadership experience and experience in any communications media (yearbook, school newspaper, etc.) would be an asset

#### **Level III Editors**

**Description:** The responsibilities of the Level III Editors are to help manage the regular operations of the journal. This includes reviewing applications for the Peer Review Board, assigning reviewers to submissions, and making grammatical edits. The Level III editors are also responsible for promoting *The iScientist* within their cohort. New to the 2017/2018, the Level III editors will be involved in planning and executing workshops regarding the scientific publication process. Level III editors are expected to continue on as Senior Editors

of *The iScientist* in the following school year; therefore, this position is considered a two-year term. Level III editors are expected to attend all weekly meetings

Positions Available: 2

**Term:** 2 years (1 year as Level III editor, and 1 year as Senior Editor)

Position Requirements: Be a student in Level III of the Integrated Science Program and:

- Have a passion for scientific communication and interdisciplinary research
- Demonstrate commitment and dedication to long term projects
- Leadership experience and experience in any communications media (yearbook, school newspaper, etc.) would be an asset

#### **Level II Editors**

**Description:** The responsibilities of the Level II Editors are very similar to that of the Level III Editors described above. The only difference is that the Level II position is a one-year term. Level II Editors are welcome and encouraged to reapply for the Level III Editor positions in the following year, should they desire. Level II editors are expected to attend all weekly meetings

Positions Available: 2

**Term:** 1 year

**Position Requirements:** Be a student in Level II of the Integrated Science Program and:

- Have a passion for scientific communication and interdisciplinary research
- Demonstrate commitment and dedication to long term projects
- Exhibit a willingness to learn
- Leadership experience and experience in any communications media (yearbook, school newspaper, etc.) would be an asset

### **Promotions Manager**

**Description:** The Promotions Manager will be responsible for creating and maintaining a Facebook page for *The iScientist*. They will also be responsible for creating posters and other promotional graphics for *The iScientist*. This position may also involve updating and editing The iScientist website. The promotions manager is expected to attend meetings biweekly.

Positions Available: 1

**Term:** 1 year

**Position Requirements:** Be at least in Level II of the Integrated Science Program and:

- Have a passion of scientific communication and interdisciplinary research
- Demonstrate commitment and dedication to long term projects
- Experience using some graphic design software (Adobe Photoshop, Illustrator, GIMP, etc.)
- Experience in website design and management would be an asset (no HTML or CSS experience is necessary)

• If you have samples of past graphic design work you can show us, please submit these with your application

# **Graphic Designer**

**Description:** The Graphic Designer will be responsible for the overall design aspects of the issue(s). Responsibilities include developing an iScientist template on Adobe InDesign, formatting all articles into this template, and designing any lead and tail pages, as well as the cover. The promotions manager is expected to attend meetings biweekly. The Graphic Designer will be expected to attend meetings biweekly.

Positions Available: 1

**Term:** 1 year

Position Requirements: Be at least in Level II of the Integrated Science Program and:

- Have a passion for scientific communication and interdisciplinary research
- Demonstrate commitment and dedication to long term projects
- Have experience using Adobe Creative Suite
  - Experience specifically with Adobe InDesign would be an asset
- If you have samples of past graphic design work you can show us, please submit these with your application

### **Workshop Coordinator**

**Description:** New for the 2017/18 school year, *The iScientist* will be hosting workshops on the process of academic publication. The Workshop Coordinator will work with the Level II, III and Senior Editors to develop and organize the Workshop Series. They will assist with programming and logistics of the workshops. Examples of workshop ideas include the how to submit to a journal and the peer review process. The Workshop Coordinator is expected to attend meetings biweekly.

Positions Available: 1

Term: 1 year

**Position Requirements:** Be at least in Level III of the Integrated Science Program and:

- Have a passion for scientific communication and interdisciplinary research
- Demonstrate commitment and dedication to long term projects
- Exhibit willingness to learn
- Teaching and/or event planning experience would be an asset

### **Selection Processes**

Save the Senior Editors, all other positions are selected in Late September/Early October of the academic year. The Senior Editors are automatically promoted to their position following a one year term as Level III Editor. Applicants for the editorial board are required to follow this application procdure:

1. All applications require a CV and a cover letter

- a. Promotions manager and graphic designer applications may also include samples of past work as part of the application, if available.
- 2. There is no limit to the length of the CV
- 3. The cover letter should be a maximum of one page, single-spaced (size 12 font, 2.5 cm margins) and contain answers to the following questions:
  - **a.** Why do you want to be a member of *The iScientist* Editorial Board?
  - **b.** What can you contribute to *The iScientist?*
  - c. What other commitments do you have during the school year and how will you manage these time commitments?

Applicants are allowed to apply for as many positions as they wish, but many only hold one position at any given time. Therefore, applicants are asked to rank positions based on personal priority when submitting their applications. The editorial board is selected by the two Senior Editors, along with Senior Advisors, should any be available. Interviews will be conducted, should there be a need as determined by the Senior Editors.

# **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
- 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 ground breaking, 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.

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.

# **Submitting Academic Work**

If you are interested in publishing results from work you conduct under supervision (e.g., Enrichment Project (EP), Independent Project (IP), thesis, summer research), you <u>must</u> 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.

# **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. Should more than three authors wish to collaborate on a submission, please contact the Editorial Board. 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 prior to submission 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: <a href="https://journals.mcmaster.ca/iScientist">https://journals.mcmaster.ca/iScientist</a>. For group submissions, the submission is completed by one author, designated as the primary author for communication purposes. 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. Within a week of submission, you should receive an authorship form from a member of the Editorial Board. Details about the form are found in the section titled **Authorship** Form. 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 <a href="mailto:iscijournal@gmail.com">iscijournal@gmail.com</a>.

# **Ensuring Anonymity**

The iScientist uses a double-blind review process, meaning that both the authors and the reviewers do not know each other's identity. It is the author's responsibility to maintain anonymity in their submission. The iScientist asks that you **do not** include any authors names in the submission document. Any specific names (a supervising professor, a graduate student, etc.) mentioned in the acknowledgments must be replaced with a pseudonym (e.g. John Smith, Jane Doe) for the review process. Should your submission be accepted for publication, we will replace the pseudonyms with the appropriate names.

You are free to mention to other that you have submitted to the iScientist, however, if you would prefer to maintain full anonymity, we ask that you do not discuss the contents of your submission in public locations such as the iStudy. As the process is double-blind, your reviewer might be sitting right across from you without your knowledge.

# **Authorship Form**

To prevent academic dishonesty, *The iScientist* Editorial Board asks that all authors sign an Authorship Form. This form will be emailed to the primary author once we confirm the receipt of your submission. By signing this form, the author(s) declare that:

- They are the sole author(s) of the submission and have full authority to make the submission
- They guarantee the submission does not infringe any copyrights or contains any unlawful matter
- They agree to all the findings and interpretations in the submission
- They agree to the terms and conditions of this guidebook

If the submission was also submitted to earn academic credit, the authors must state the changes made between the academic submission and the version submitted to *The iScientist*. Additionally, if the research described in the submission was completed under a faculty of staff supervisor, they must also sign the form, stating their approval of the submission.

### **Deadlines for submission**

There will be a deadline for the submission of new papers and revised papers associated with each editorial board. The deadlines for the 2017/2018 year are:

Fall: November 4<sup>th</sup>, 2017

Winter: TBD

#### 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:

Primary Author Last Name, First Name Initial., Year. Title, iScientist Submission.

e.g. Lauman, P., 2015. *Elucidating the MyD88 Pathway*, iScientist Submission.

Shephard, A., 2015. Adaptationists Anonymous, iScientist Submission.

To maintain anonymity, *The iScientist* journal submission system automatically converts your file name to a random 8-digit number. Only members of the editorial board have access to the author(s) names.

### 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.

#### **Issue Publication**

The iScientist will publish up to two issues per year—one in the fall term and one in the winter term. If there are not enough submissions in the fall term, only one issue will be published—in the winter term. Articles will be published online once enough submissions to form an issue (~10) are accepted. Published articles are made visible on the website of *The iScientist* in order of acceptance. The journal volume will also be made available in print form, wherein it can be distributed throughout the School of Interdisciplinary Sciences at McMaster University. Print copies will be made available around late January (for the fall issue) and late April (for the winter issue).

### **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

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.

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. 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 Scientific Literacy. The first point is automatically rewarded 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.

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**

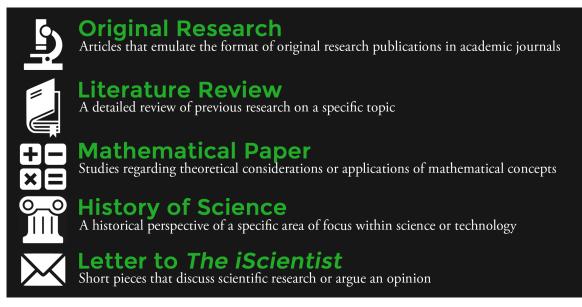
Mathematical Papers are designed to be similar to Original Research Papers, but are modified to be specific to studies regarding theoretical considerations or applications of mathematical concepts. These papers should be 2000 to 4000 words in length and must contain an abstract, 8-10 key words, an introduction, 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**

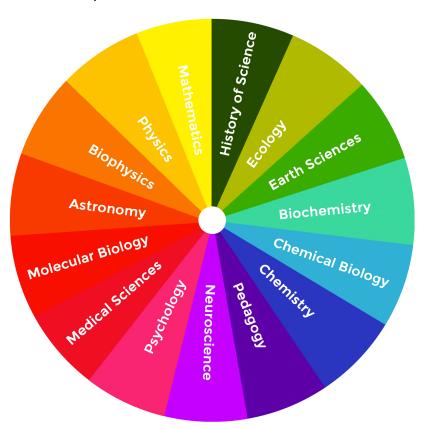
This format is the most distinctive of the four long piece formats, and is designed to be somewhat similar to chapters from the Integrated Science publication series *History of the* Earth. This format allows authors to provide a historical perspective of a specific area of focus within science or technology, 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, 8-10 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.

# **Disciplines**

For the digital and print issues, articles will be assigned to one of 5 formats: Original Research, Literature Review, Mathematical Paper, History of Science, and Letter to the iScientist. The formats are described in the figure below.



Additionally, articles will be assigned to one of 16 disciplines, described in the figure below. The discipline determines the colour scheme used when formatting the article. The discipline will be chosen by the editorial board, in consultation with the author(s).



# **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 iSci students will also have access to these templates via Avenue to Learn. 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.

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.

### **Peer Review Board**

# **Selection and Membership**

Students who are in at least level II of the Integrated Science Program are invited to apply for *The iScientist* Peer Review Board. Additionally, students who left the Integrated Science Program after completion of level II are allowed to apply. Applications for the editorial board take place in late September.

The Editorial Board will review all applications and select the members of the Peer Review Board. There is no limit to the size of the Peer Review Board. Once a member of the Peer Review Board, a reviewer can choose to remain on the board for subsequent years without reapplying.

### Role of the Reviewer

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.

#### **How to 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	<ul> <li>Paper will be accepted with minor changes.</li> <li>Paper is returned to the original authors for these changes to be made.</li> <li>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.</li> <li>Once the changes have been made the paper is published to the journal.</li> </ul>
Resubmit for review	<ul> <li>Significant changes are required.</li> <li>Paper is returned to the original authors for these changes to be addressed.</li> <li>The paper must be resubmitted for review.</li> </ul>
Resubmit elsewhere	This choice is not relevant to <i>The iScientist</i> .

Decline submission

The paper is rejected with no recourse to revisions. Papers can only be rejected on the following technical grounds. The paper:

- 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).

\*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.

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.
  - a. For Microsoft 2003 and previous versions, and Macintosh versions of Word:
    - Under the File menu select: Save As > Tools (or Options with a Mac)
       Security > Remove personal information from file properties on save > Save.
  - b. For MacIntosh Word 2008 (and future versions)
    - i. Under the File menu select "Properties."
    - ii. Under the Summary tab remove all of the identifying information from all of the fields.
    - iii. Save the File.
  - c. For Microsoft 2007 (Windows):

- Click on the office button in the upper-left hand corner of the office application
- ii. Select "Prepare" from the menu options.
- iii. Select "Properties" for the "Prepare" menu options.
- iv. Delete all of the information in the document property fields that appear under the main menu options.
- v. Save the document and close the document property field section.
- d. For Microsoft 2010 (Windows):
  - i. Under the File menu select "Prepare for sharing."
  - ii. Click on the "Check for issues" icon.
  - iii. Click on "inspect document" icon.
  - iv. Uncheck all of the checkboxes except "Document Properties and Personal information".
  - v. Run the document inspector, which will then do a search of the document properties and indicated if any document property fields contain any information.
  - vi. 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.
- e. 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.