

# Astrophysics Journal Club 2023-2024

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<http://www.physics.mcmaster.ca/apjclub>

Welcome to Astrophysics Journal Club 2023/2024! The basic premise is to have weekly talks and discussions pertaining to recent astrophysical research with all members of the astronomy group at McMaster. JC should ideally serve as a means for keeping up to date on research currently being done both in the department and in the field. JC offers an outlet for graduate students, post-docs and faculty to share new and exciting research with the department and provides a friendly setting for lively discussions of recent, and sometimes controversial, papers. In addition, JC is a great way to gain experience presenting in front of an expert audience.

**Every graduate student is responsible for: (1) giving two talks per academic year; (2) attending JC weekly and participating in discussion.** First year grad students are an exception and are not expected to present in their first semester. The two talks given by graduate students each year should consist of one paper presentation and one research talk (see “presentation guidelines” section below). It will be your responsibility to not only choose dates, but to also assist with any scheduling conflicts you may encounter as the date of your presentation nears. We kindly ask that you honour this request in an effort to help keep JC and life of your coordinator running smoothly. Additionally, post-docs and faculty are encouraged to give one talk per year on a paper or research topic of their choosing.

We are hoping that this document will answer any questions you may have about JC, and will be useful for both new and returning members of the department. If you find that you still have questions after reading this document, please feel free to ask us by email ([hartmk2@mcmaster.ca](mailto:hartmk2@mcmaster.ca), [odessep@mcmaster.ca](mailto:odessep@mcmaster.ca))! We will always make sure the first few weeks consist of talks given by returning students/post-docs so that new students can attend these sessions and learn what to expect when it's their turn to present.

## Schedule

Journal Club will take place on Thursdays at 12:00-1:00 in [**location TBA**]. Presentations should typically run for 20 minutes, allowing 10 minutes for questions and discussion. There will therefore be a maximum of 2 talks per JC slot with sessions running for either 30 or 60 minutes, depending on whether there are one or two talks scheduled.

## Updates

If you are presenting, we ask that you e-mail us (hartmk2@mcmaster.ca, odessep@mcmaster.ca) with your talk title and abstract at least 7 days before you are scheduled to present. This will give us time to update the website, and give us the information we need to notify everyone of your talk. We plan to continue with the JC website (<http://www.physics.mcmaster.ca/apjclub>) this year as a means of providing an easily accessible schedule, as well as a reference for weekly abstracts and talk titles. Please become accustomed to referring to the website to stay apprised of the upcoming weeks' talks. Each week, we will send a reminder email letting everyone know who that week's presenters are, as well as their talk/paper titles and abstracts. Finally, if you plan to attend any JC presentations and suspect that you might not be on the JC mailing list, ask Jennifer Ayres in the main office to be added to the "d-physastro" mailing list.

## Signing Up For A Talk

Before signing up, please refer to the "Current Schedule" tab on our website that we keep up to date. You can register for any date that is listed as open. To register for a talk, please email us (hartmk2@mcmaster.ca, odessep@mcmaster.ca) to let us know what day you would like to present, and if you would like to book a half-hour, or full hour session for your talk.

Please try to have a look at the schedule when choosing your talk date and make an effort to fill empty slots before doubling up on already filled ones. We will prioritize booking at least one speaker for every session before booking two speakers per session. If you end up being the only speaker during a session you requested a half-hour for, you are welcome to use as much of the hour as you would like; please feel free to exceed 30 minutes in this case! Whatever talk length you are preparing, please keep in mind to plan for a 2:1 ratio between your talk time and time for discussion and questions.

## Visiting Speakers

We have often used this timeslot for guests visiting from other institutions to give presentations. We encourage everyone (faculty, postdocs, and grad students) to let us know if they have any potential visitors. We will do our best to get in contact with them and invite them to speak at JC. We will give visiting speakers the full one-hour timeslot to present.

Journal Club slots are ideal for guest speakers and they will take precedence over regularly scheduled presenters. While we will try to avoid this, if your talk date happens to overlap with that of a guest speaker, you will be bumped to the next available time slot that you are able to present.

## Presentation Guidelines & Format

Journal club speakers are expected to prepare a formal presentation with slides. On the day of your presentation, plan on arriving to the room 5-10 minutes early to set up. We will be in the room, and we can make sure the projector is working properly.

When preparing a talk, plan for a 2:1 ratio between talk time and discussion and questions (so for a 30 minute talk prepare a 20 minute presentation). We like to encourage open discussion at JC, so it is common for the audience to ask questions both *during* and after your talk. As a speaker, we ask that you take questions during your presentation and to expect interruptions for clarification and discussion. There are exceptions here, such as for conference practice talks where there will only be questions at the end of the presentation.

Regardless of whether you're giving a paper talk or research talk, please aim your talks to be accessible for a general astronomy audience. Also keep in mind that new students may have limited astronomy background (ie. have not yet taken intro astro modules). As such, your talk needs to have sufficient background and introductory material so that every audience member learns something from your talk.

### Research Talks

This is an opportunity for you to discuss some of your research with the department's astronomy group. Giving research talks in this setting is especially useful as your audience has a range of areas of expertise and backgrounds as well as a nice mix of observers, theorists, and simulators. Needless to say, you can expect a lot of great feedback. Since the talk time is 20 minutes, we would like the discussion to focus on a well-defined problem in your thesis. Tell us how it contributes to your thesis, the approach your taking, the problems you're having, etc. The audience may be able to give you feedback on solving a problem you're facing!

If you're attending a conference where you will be giving a talk, you are encouraged to do a trial-run at journal club. This is a great opportunity to time your talk and get feedback on your slides and presentation.

**New members** are welcome to give a research talk on a previous project (ie. an undergrad project, masters or PhD thesis). This is a great way to introduce yourself to the group and tell us what you were working on before you came to McMaster.

Lastly, if you attended a conference and would like to give a conference summary talk, that is also welcomed to JC! Please run this by the organizers first. Often these are most effective if the conference had some overarching themes or questions, or if you want to discuss several key points, results and figures you found interesting.

### Paper Presentations

The first step for doing a paper presentation is selecting a recent paper to present. We encourage speakers to select recent papers that have been submitted to (off of astro-ph) or fully published in a peer-reviewed journal (usually ApJ, MNRAS, A&A, Nature, Science, etc.). Of course, your paper needs to be astronomy-themed. The purpose of presenting papers in JC is to highlight new and exciting research being done in the field, so we encourage selecting papers that have been published/submitted within the last year or so. **In all cases, you need to have your paper approved by your supervisor.** There are many different reasons for picking a paper for JC. It could impact your research in some way, have an exciting result, or a new and interesting model. Whatever the reason is, tell us why you chose the paper during your presentation!

Again, we will emphasize the importance of giving sufficient background and introductory material for your talks. The introduction section of the paper you're presenting is a good place to start, but often you will have to expand on what's there. You may have to draw from additional sources to accomplish this. During your talk, you'll want to go through the paper, probably following the structure the authors used (ie: intro/motivation, methods, results, conclusion), showing figures directly from the paper. Additionally, we think it's a good idea to give your own interpretation of the methods/results presented in the paper, be them positive or negative.

If you feel that this document is missing any pertinent information, you can feel free to let one of the organizers know at any point during the year and we will update it as necessary.

We look forward to another invigorating year of Journal Club talks and discussions. See you all there!

– Kate and Padraic