This is an open discussion session! The following is just for your reference!

1. **How to Read a Technical Paper**, by Prof. Jason Eisner, Johns Hopkins University
   https://www.cs.jhu.edu/~jason/advice/how-to-read-a-paper.html
   - Multi-pass reading
   - Write as you read (and organize your notes)
   - When and where to read (set aside time, select parts, read with a friend)
   - What to read (web search, references, books, wikipedia)

2. **How to Read a Paper**, by Prof. S. Keshav, University of Waterloo
   - The three-pass method for reading papers (quick scan, greater care, fully understand)
   - The three-pass method for doing a literature survey (web search, key authors/papers, reputable conferences)

3. **How to Read a CS Research Paper?** by Prof. Philip W. L. Fong, University of Calgary
   - Comprehension (problem, claimed contributions, methodology and experiments for substantiating the claims, conclusions)
   - Evaluation (significant problem? significant contribution? valid claims?)
   - Synthesis:
     - what is the crux of the research problem?
     - any alternative approaches?
     - any better methodology and experiments?
     - any counter arguments?
     - can the results be improved?
     - can the results be applied to other contexts?
     - any open problems raised by this work?
     - bottom-line: can we do better?

4. **An Evaluation of the Ninth SOSP (Symposium on Operating Systems Principles) Submissions or How (and How Not) to Write a Good Systems Paper**, by Roy Levin and David D. Redell, Ninth SOSP Program Committee Co-chairmen
   - Original Ideas:
     - how do you know?
     - can you state the new idea concisely?
     - what exactly is the problem being solved?
     - are the ideas significant enough?
     - is the work described significantly different from existing related work?
     - is all related work referenced, and have you actually read the cited material?
• are comparisons with previous work clear and explicit?
• does the work comprise a significant extension, validation, or repudiation of earlier but unproven ideas?
• what is the oldest paper you referenced? the newest? have you referenced similar work at another institution? have you referenced technical reports, unpublished memoranda, personal communications?

• Reality:
  • does the paper describe something that has actually been implemented?
  • if the system has been implemented, how has it been used, and what has this usage shown about the practical importance of the ideas?
  • if the system hasn't been implemented, do the ideas justify publication now?

• Lessons:
  • what have you learned from the work?
  • what should the reader learn from the paper?
  • how generally applicable are these lessons? be sure to state clearly the assumptions on which your conclusions rest.

• Choices:
  • what were the alternatives considered at various points, and why were the choices made the way they were?
  • did the choices turn out to be right, and, if so, was it for the reasons that motivated them in the first place? if not, what lessons have you learned from the experience?

• Context:
  • what are the assumptions on which the work is based? are they realistic?
  • how sensitive is the work to perturbations of these assumptions?
  • if a formal model is presented, does it give new information and insights?

• Focus:
  • does the introductory material contain excess baggage not needed for your main development?
  • do you include just enough material from previously published works to enable your reader to follow your thread of argument?

• Presentation:
  • are the ideas organized and presented in a clear and logical way?
  • are terms defined before they are used?
  • are forward references kept to a minimum?
  • have alternate organizations been considered?
  • does the abstract communicate the important ideas of the paper?
  • is the paper finished?

• Writing Style:
  • is the writing clear and concise?
  • are words spelled and used correctly?
  • are the sentences complete and grammatically correct?
  • are ambiguity, slang, and cuteness avoided?
**Discussion and Q&A in the Session**
(Thanks Wendy Belcher and Travis Johnson for taking notes)

**Q:** How to navigate and find good research papers - google scholar or what?
**A:** Start by looking at papers that have been published at the top conferences, vs. general keywords on google or google scholar - as a start. Also, utilize faculty who have experience in your research area as resources for finding good papers.

**Q:** How to find good conferences?
**A:** Talk to or look at websites for the professor who is expert in the area you are researching. Theoretical vs. Practical vs. Special Interest Conferences - and, look at Google for ranking of conferences: [https://scholar.google.com/citations?view_op=top_venues](https://scholar.google.com/citations?view_op=top_venues)
**A:** Also depends on if you are searching for classical research or current research - look at top outlets
**A:** Get together with research or reading group to share ideas and current research. If your research group does not already have a reading group, consider starting one and meeting periodically to discuss recent papers.

**Q:** How to identify top researchers?
**A:** You will learn this through reading literature.
**A:** Google provides h-index for researchers.
**A:** Recent conferences are a great way to start, sometimes there are others who are not as current, so you need to balance the resources you use to find the experts.
**A:** Look up Turing award winners or others.

**Q:** How to navigate reviewer comments? What if they just generically state it is not novel?
**A:** Most conferences advise to be more specific, but if too vague, hard to determine what to do with the comment.
**A:** A good review should demonstrate they understand your paper and provide specific comments.
**A:** Clarify the novelty within the text of the paper, by contrasting your work to all of the previous work that you can find.
**A:** Make it easy for the reviewer to find the novelty - put it in the introduction (realistic sales pitch).
**A:** You want to make sure you cite as many other work in your literature review and highlight why your idea is novel.
**A:** Resubmit in another conference, and see if you get more helpful feedback.
**A:** Don't take it personally.

**Q:** Rules of thumb or tips for reading the paper … going down the rabbit hole of reviewing papers?
**A:** Trace the trail back to a survey paper and then you can trace forward again.
**A:** Depends on your baseline - if you have taken a class or read a book on the topic - then you are already “relevant” or “current” in your field.
**A:** If a paper has a lot of new information you can't understand, don't get discouraged and ask
yourself if this information is really what you're after. If so, spend more time. If not, consider simply moving on.

Q: How often do have breakthroughs when reviewing papers / learning something new?
A - If it is a good paper, most likely you will learn from those papers - you should be able to identify good vs. not good papers; can always learn from them?

Q: Have you networked with others from your research or conference papers?
A - In general, research is collaborative - to connect research with other fields or real-world scenarios
A - Best opportunities at conferences was going to lunch and/or networking with others, do poster talks to attract attention to your research and get lots of new opinions/ideas.
A - Papers are polished research, but it's often extremely helpful to have informal discussions with the authors or other researchers.

Q: Learning on topics - should you focus on reading more and more papers?
A - First get a general understanding, take tutorials or courses on the topic and then focus on specific papers, textbook, or could refer to a survey paper.
A - You can skim through it, use the 3-pass strategy or something like in the handout.
A - As your knowledge base increases, the time it takes to read paper decreases, but it comes with experience (or you can skip it and find one you understand, save harder one for later).
A - Know “why” you want to read the paper (problem or how they solved it). What are you trying to get out of the paper? If you're not getting that information, then perhaps it’s time to move on.
A - Many kinds of research in CS (theory, algorithms, systems, …)

Q: How to find research ideas?
A - Read other people’s papers and/or your daily life
A - Knowledge and interdisciplinary knowledge is key.

Q: Do you often read papers outside of your research areas and how to decide when to do that?
A - You don’t know what you don’t know - mainly focus on your own area and spend a little time in other areas, or listen to others who are working on new problems, talking to others, going to seminars.
A - To learn about other fields, you can subscribe to
A - Use the art of skimming … don’t spend a lot of time reading in other fields.
A - Also common to have a good idea and then through your literature search, you can find others who may have done the same thing.
A - Talk to your advisor, or other faculty, mentors