

### Lee Hartmann Talking Points

- The new decadal, Astro2020, will have similar thematic topics to the previous decadal: stars and stellar evolution; formation and evolution of compact objects; resolved stellar populations and their environments; galaxy evolution; cosmology and fundamental physics; multi-messenger astrophysics. More emphasis will be placed on multi-messenger astrophysics in Astro2020.
- When writing white papers, it is important to look at (and follow) the directions of the white paper call. See slides for instructions on writing Astro2020 white papers.
- Science white papers should not get heavily into mission advocacy.
- It is acceptable and important to have broad themes in white papers, but the most valuable information for the committee is talking about detailed opportunities that are more broad than mission-centric.
- A good question to answer in a white paper is: “where can one make progress in the next decade?”
- A good white paper will answer the question: “what kind of technological developments would need to occur in order to facilitate your recommendation?”
- The decadal survey committee encourages collaboration. Collaborations are especially encouraged if it reduces the number of white papers received by the committee.
- When writing a white paper, make sure to keep the audience in mind. Follow the template: font size, margins, page limit.
- The committee has a lot of reading to do in a short amount of time (90 white papers in 2 weeks for Lee to read). Thus, shorter and more concise white papers are appreciated.
- Web links and citations are acceptable in order to keep 5-page limit.
- Lee says: “Get to the point [of the white paper recommendations]!”
- White papers are worth the effort. It presents a good opportunity to participate in the future of the field.
- Graphics are a useful addition to a white paper, as long as they are crucial.
- Lee recommends including a short, focused introduction and a summary of the current state of the field in white papers.
- A good goal for a white paper is to stand out from the crowd and help the committee retain information that you want to convey.
- Tables are a good addition to a white paper, but make sure it is needed and relevant
- Make clear callouts for facility requirements in white papers. “Development of next-generation, large-format bolometer cameras... support for 25-50m millimeter/submillimeter telescopes.”
- Early career astronomers should not characterize their colleagues as lemmings (wait for tenure).
- Gravitational waves and multi-messenger astronomy are going to be a very important aspect of Astro 2020
- Significant amount of data in the upcoming decade (LSST, etc.).

### **The following bullet points are from discussion following Lee Hartman’s presentation**

- Remember the clients of the decadal survey: NSF, DOE, NASA
- Focus on benefits of your recommendation and do not discredit other views
- Avoid walls of text and try to maximize readability
- Figures and tables should be relevant to the white paper

- Good figures may be included in the survey and could receive a lot of attention
- There is not a reason to focus on the cost of recommendations suggested in white papers