

# Ozgrav-LSC interface

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# Collaboration readiness for O3

- One key to success in O3 is to finish O2
  - Remaining paper list is still quite substantial
  - Can't afford to have that distraction once the machines are running
  - Need to establish and commit to a schedule for each paper
  - May need to perform triage
    - Combining papers, reducing scope, moving to short-author-list domain
- Second key is to form a small list of planned Collaboration papers
  - What's most important to the broad collaboration?
  - What will give a sense of accomplishment to all – Astro/Data/Detector?
  - Leave science for short-author-list papers and the greater scientific community!

## More 'general' comments

- We need to increase the number of people with expertise in producing Collaboration papers
  - If you are on a PWT, add one or two persons to watch and help as apprentices
  - If you are not on a PWT, find someone who is and offer help – can be sorting feedback, proofreading, etc. – things that don't need expertise in the field
- A specific need is for Reviewers
  - This *does* require expertise and is not always rewarding...but quite necessary
- Per the previous page: let's not plan to write too many papers!
  - The number of person-hours for the full collaboration is astonishing

# Contributions to the LSC

- The new LSC Program distinguishes between
  - Infrastructure and Operations contributions
  - Exploratory steps in Astrophysics, Analysis, R&D
- The LSC needs both to be a vital and engaging environment
- But the InfraOps *must* be done
- May need to establish a yet tighter definition of required work
- Goal: to get all persons and all groups contributing to vital endeavors
- OzGrav an interesting way to manage this: Internal to OzGrav you can divide/assign to contribute powerfully while leaving flexibility for individuals and groups. Maybe consider 'Ozgrav Deliverables'?

# Bilby

- An excellent contribution!
  - Gives us control over the code base
  - Provides 'multiple pipelines' with the (external) python tool
  - Fresh development profiting from our now significant experience base
- Be good about sharing in its development and rewards
- Of course the broad program of OzGrav is central to getting great science from O3

# How can OzGrav contribute to the operations of the instrument?

- **Visits to the observatories – Fellows**
- Longer term visits are especially valuable – for the machine and the Fellow
- **Calibration** is critical to all analysis and has been a hangup in the past
  - Requires presence at the observatories to contribute; requires months to get to know the domain
- Please know that Fellows beyond the required contribution are very welcome! (no funds at present beyond the base program....)

# How can OzGrav contribute to the operations of the instrument?

- **DetChar – Detector Characterization**
- Perfectly feasible to contribute from afar, and great to have all time zones covered
- Instrumentalists, analysts, Astros all find niches to contribute
- A great introduction to new fields of expertise
- A particularly welcoming and diverse group

# How can OzGrav contribute to the operations of the instrument?

- **Commissioning from afar**
  - Can grab instrument analysis efforts
  - Finesse modeling as an example
  - Fluid line between Commissioning and DetChar
- Development efforts for HF etc.
  - Look for problems with the current instruments which touch on HF challenges
  - Try to apply HF modeling to LIGO present challenges
  - PI a good example
  - Squeezing efficiency limits another



# 3G and HF

- I personally think the OzgravHF idea is very neat
  - For the Astrophysics
  - For the concept of a first instrument designed for an astrophysical goal
  - For *dBang/dBuck*
  - For prototyping 3G instrument techniques
- Crucial not to try to do too much with too little funding
- *Everyone* knows we should have a southern-hemisphere 3G detector
  - ET seems to have a firm plan
  - US/Australia/others should continue to talk about joint planning to try to realize the 3-detector 3G (3D3G?) Network to complement ET
  - Dawn V in May...

# OzGrav

- ...is great!
- A really vital and positive environment for people and science of GWs
- A model for the rest of the LSC to consider
  
- Happy to answer questions on LSC etc.