

## National Institutes of Health S10 Grant Application Tips

The following are notes from a session on equipment grants presented at the 2019 [Association for Biomolecular Research Facilities Conference](#).

### **SIG (Shared Instrumentation Grant) and HEI (High-End Instrumentation Program)**

- NIH cares about leveraging previous projects they have already funded.
- It's important to remember that the formats change year to year – look at examples of previously funded S10s.
- One-third of all grants have the same scientific need. Differentiate what makes yours different.
- Demonstrating longevity of instrument and growth/recruitment of users is essential.
- Scientific applications that are transformative get higher priority – all HEI applications should be transformative.
- HEI grants are more competitive, so when possible, submit for the SIG instead of HEI (if over the \$600K limit, institutional support for the remaining difference makes a strong proposal).

### **Equipment Section**

- Justify accessories requests.
- The best place to put accessories in is through institutional commitment. It's best not to ask NIH.
- Just stick to GSA/standard pricing, not deep discounts. It's confusing if NIH gets 5 applications for the same equipment with different prices. You can negotiate for deep discounts later.
- If you don't emphasize *need*, the rest of the grant won't matter/will score low.
- If you are just replacing an older instrument, that's fine, but you're competing with a lot of applications. It's better if you can demonstrate need, can say you've increased number of users, need higher resolution, etc.
- Adding specific details matters. For example, the difference of 0.3Da in resolution is enough to justify high-resolution mass spec for proteomics.
- Gathering preliminary data is helpful, rather than saying it will just do it "better".
- Including the comparison of what else is on the market, even if it's obvious and well-known, is still important – this can make or break it.
- Major users will drive the need. Include about four or five major users; don't go overboard. If you have 10, then each will only have 10% accessible time – therefore no longer a major user.
- Obtain preliminary data. Start in June (deadline May). Seek out centers, core facilities, loaner instruments.
- Answer the question: How will the findings leverage (multiply) previous NIH investments?

- Make it easy to see that the instrument is appropriate, would be effectively utilized, and will provide advantages over other methods.
- NIH RO1 or greater funding is needed for major users. K and R21 can be minor users, but **not** major users.
- Are more users better? No! You want to have time for major users, you don't want to have instrument sitting empty. **Better** users are better.
- Major users with NIH funding should use the instrument for at least 35% of accessible user time (AUT).
- NIH-funded users (major and minor) should use the instrument at 75% of AUT.
- Letter of 'non-support' can also be helpful – for example, someone has an instrument, but doesn't have enough time for you to use it.
- Note any non-federal funds use for equipment.
  - Just include the description, not justification here.
  - Attach quote.

### Form details

- Those providing the biosketches will expect you to fill in the last 3-4 lines on their biosketch of why their expertise is useful. Do not reuse previous biosketch answers that were for another purpose, such as, "I believe my expertise is useful for this PO1 application."
- Reiterate important points – pull important points out and highlight them in boxes.
- Comparison of commercial offerings – provide a table.
- Include institutional commitments for accessories if possible.
- Justification:
  - Provide a table of equipment and the benefits of each.
  - Justify model and manufacturer.
- Project narrative:
  - Show biological significance.
  - Don't paste aims from PIs' RO1s – need to show how instrument will transform science they already have funded. You want to show how the instrument will extend science, not just fulfill the needs of the grant.
  - Preliminary data is very important – present data in clear graphics and tables.
- Major Users:
  - Four to five is ideal; all need major NIH funding.
  - Emphasize users that drive the need rather than describing every user.
  - A major user has to use the instrument more than 10% of AUT.
  - All major users combined have to use the instrument a minimum of 35% of time.
  - More users are NOT better.
  - Double check grant numbers given by users in NIH Reporter – NIH has often received incorrect grant numbers.
- AUT – three examples are: 9 - 5 p.m., extended use, 24/7. Be honest. NIH understands the reality of usage, i.e., 9 - 5 p.m. Estimate AUT as close as possible.
  - NIH users need to make up at least 75% of AUT.

- External users can be confusing to reviewers since the need should be at the institution. However, if they will participate, external letters of support strengthen the application.
- Note if you will put an acknowledgement of the resource up on the website and how you will research publications of instrument that might not be acknowledged (PubMed searches, etc.).

### **Letters of Support**

- Institutional
- External Investigators