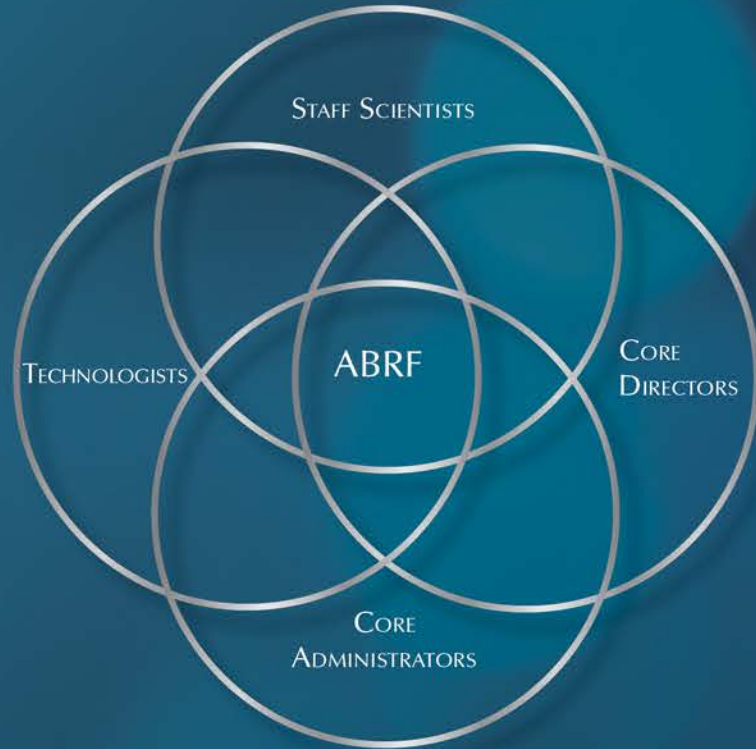




The Association of
Biomolecular Resource
Facilities



**ABRF: at the Core of Research
Excellence and Sustainability
(CORES)**





The Association of
Biomolecular Resource
Facilities

NIH S10 Grant Applications for Shared Instrumentation: Tips, Tidbits and Informed Suggestions

Part 1: Developing the Foundation – Timeline, Who, What, When, Where, How

February 15, 2023



Joe Dragavon

University of Colorado Boulder

- 0 successful NIH S10 Awards (but I just got a 30 so I'm on the verge!)

Sheenah Mische

NYU Langone Grossman School of Medicine

- 10 successful NIH S10 Awards for DART Cores

Sue Weintraub

UT Health San Antonio

- 9 successful NIH S10 Awards
- Also known as the "Queen" of the S10 program

1. Structure of the session

- Day 1 – Developing the Foundation
- Day 2 – Writing the proposal

2. Questions are welcome at any time

- Please put your questions in the chat. We will try to answer as many as we can.
- While questions are welcome, we'll aim to stay on task so that the material is covered.
- There is an open Q&A session at the end for additional discussion.

3. Want to hear more?

- Attend the Shared Instrumentation Grant Opportunities session at ABRF 2023 in Boston
- Conference: May 7 – 10
- Session (and breakout): May 8
- Representatives from: NIH, NSF, Massachusetts Life Sciences Center



Question 1

Have you submitted an S10 proposal
in the past 5 years?



Question 2

Have you received S10 funding
in the past 5 years?



Question 3

Are you planning to submit an S10 proposal
in 2023 or 2024?



Part 1: Agenda

1. Overview of the NIH S10 Shared Instrument Grant Program

- A brief history in time
- What is an S10?

2. The S10 – Time is of the Essence

- How long does it take to prepare the application?
- When should I start?

3. Preparation is where it's at

- Why do you need a new instrument?
- Things to think about

4. Attendee Q&A

- Questions can be posed at any time in the chat
- We'll address as many we can during the discussion



Part 1: Agenda

1. Overview of the NIH S10 Shared Instrument Grant Program

- A brief history in time
- What is an S10?

2. The S10 – Time is of the Essence

- How long does it take to prepare the application?
- When should I start?

3. Preparation is where it's at

- Why do you need a new instrument?
- Things to think about

4. Attendee Q&A

- Questions can be posed at any time in the chat
- We'll address as many we can during the discussion

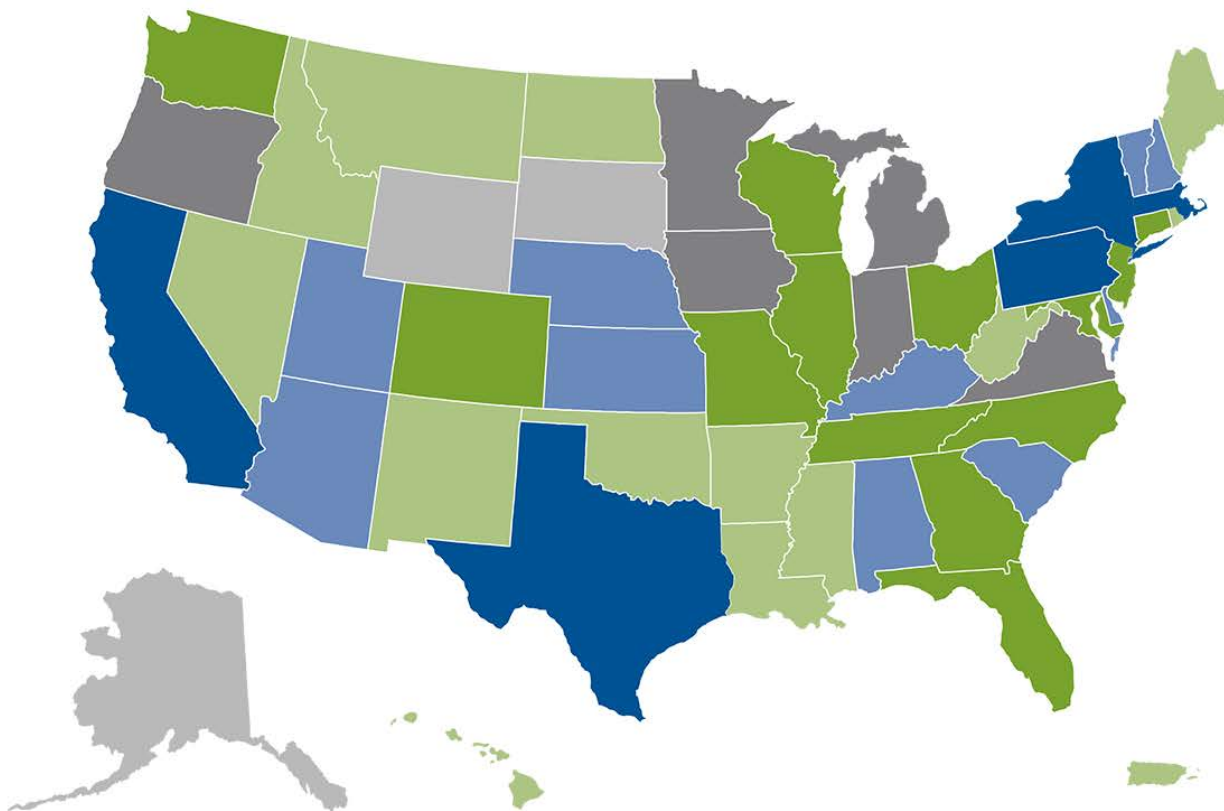
45 minutes

30 minutes



The S10 program is impactful

FY 2012 - 21



More than 50 awards	CA, MA, NY, PA, and TX
Between 21-50 awards	CO, CT, FL, GA, IL, MD, MO, NC, NJ, OH, TN, WA, and WI
Between 11-20 awards	DC, IA, IN, MI, MN, OR, and VA
Between 6-10 awards	AL, AZ, DE, KS, KY, NE, NH, SC, UT, and VT
Between 1-5 awards	AR, HI, ID, LA, ME, MS, MT, ND, NM, NV, OK, PR, RI, and WV
0 awards	AK, SD, and WY



The Association of
Biomolecular Resource
Facilities

Imagine typing the whole thing...

ORIGINAL TYPING ORIGINAL LETTERS!

DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE

GRANT APPLICATION

FOLLOW INSTRUCTIONS CAREFULLY

1. TITLE OF APPLICATION (Do not exceed 100 characters)

Mass Spectrometry Facility

2. RESPONSE TO SPECIFIC PROGRAM ANNOUNCEMENT NO YES (If "YES," state RFA number and/or announcement title)

DRR-BRS Shared Instrumentation Grant

3. PRINCIPAL INVESTIGATOR/PROGRAM DIRECTOR

3a. NAME (Last, first, middle)
Weintraub, Susan Tatelbaum

3b. MAILING ADDRESS (Street, city, state, zip code)
Department of Pharmacology
University of Texas Health Science
Center at San Antonio
7703 Floyd Curl Drive
San Antonio, Texas 78284

3c. TELEPHONE (Area code, number and extension)
512-691-6121

4. HUMAN SUBJECTS, DERIVED MATERIALS OR DATA INVOLVED
 NO YES (If "YES," form HHS 506 required)

5. DATES OF ENTIRE PROPOSED PROJECT PERIOD (This application)
From: August 1, 1982 Through: July 31, 1983

6. PERFORMANCE SITES (Organizations and addresses)
University of Texas Health Science
Center at San Antonio
7703 Floyd Curl Drive
San Antonio, Texas 78284

7. ORGANIZATIONAL COMPONENT TO RECEIVE CREDIT FOR INSTITUTIONAL GRANT (See instructions)
Code: 20 Description: Graduate School of Biomedical Sciences

8. OFFICIAL IN BUSINESS OFFICE TO BE NOTIFIED IF AN AWARD IS MADE (Name, title, address and telephone number.)
Robert B. Price, Executive Vice President
for Administration & Business Affairs
University of Texas Health Science Center
7703 Floyd Curl Drive
San Antonio, Texas 78284 512-691-6105

9. PRINCIPAL INVESTIGATOR/PROGRAM DIRECTOR ASSURANCE: I agree to accept responsibility for the scientific conduct of the project and to provide the required progress reports if a grant is awarded as a result of this application.

SIGNATURE OF PERSON NAMED IN 3a (In ink. "Per" signature not acceptable)
Susan J. Weintraub 8/13/81

10. CERTIFICATION AND ACCEPTANCE: I certify that the statements herein are true and complete to the best of my knowledge, and accept the obligation to comply with Public Health Service terms and conditions if a grant is awarded as the result of this application. A willfully false certification is a criminal offense (42 U.S.C. Code, Title 18, Section 1001.)

SIGNATURE OF PERSON NAMED IN 16 (In ink. "Per" signature not acceptable)

PHS-298 Rev. 5/80

Mass Spectrometry Facility

2. RESPONSE TO SPECIFIC PROGRAM ANNOUNCEMENT NO YES (If "YES," state RFA number and/or announcement title)

DRR-BRS Shared Instrumentation Grant

3. PRINCIPAL INVESTIGATOR/PROGRAM DIRECTOR

3a. NAME (Last, first, middle)
Weintraub, Susan Tatelbaum

3b. MAILING ADDRESS (Street, city, state, zip code)
Department of Pharmacology
University of Texas Health Science
Center at San Antonio
7703 Floyd Curl Drive
San Antonio, Texas 78284

3c. TELEPHONE (Area code, number and extension)
512-691-6121

4. HUMAN SUBJECTS, DERIVED MATERIALS OR DATA INVOLVED
 NO YES (If "YES," form HHS 506 required)

5. DATES OF ENTIRE PROPOSED PROJECT PERIOD (This application)
From: August 1, 1982 Through: July 31, 1983

6. PERFORMANCE SITES (Organizations and addresses)
University of Texas Health Science
Center at San Antonio
7703 Floyd Curl Drive
San Antonio, Texas 78284

7. ORGANIZATIONAL COMPONENT TO RECEIVE CREDIT FOR INSTITUTIONAL GRANT (See instructions)
Code: 20 Description: Graduate School of Biomedical Sciences

8. OFFICIAL IN BUSINESS OFFICE TO BE NOTIFIED IF AN AWARD IS MADE (Name, title, address and telephone number.)
Robert B. Price, Executive Vice President
for Administration & Business Affairs
University of Texas Health Science Center
7703 Floyd Curl Drive
San Antonio, Texas 78284 512-691-6105

9. PRINCIPAL INVESTIGATOR/PROGRAM DIRECTOR ASSURANCE: I agree to accept responsibility for the scientific conduct of the project and to provide the required progress reports if a grant is awarded as a result of this application.

SIGNATURE OF PERSON NAMED IN 3a (In ink. "Per" signature not acceptable)
Susan J. Weintraub 8/13/81

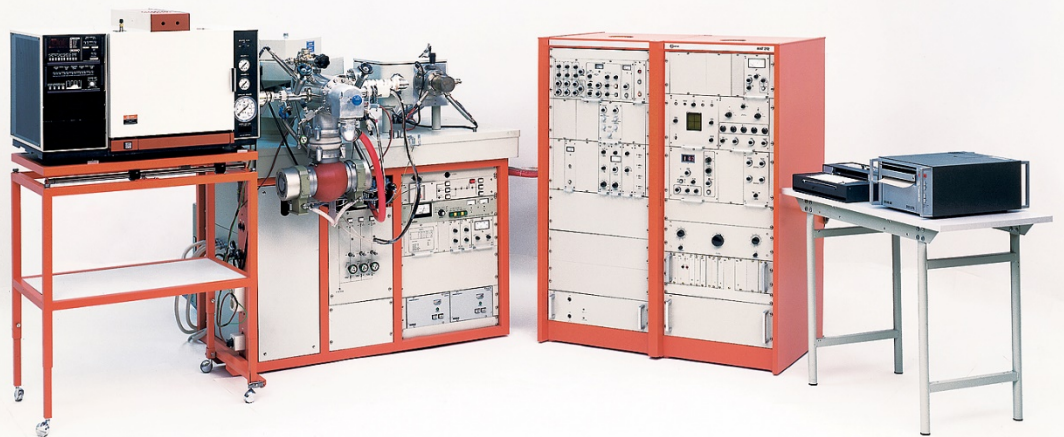
10. CERTIFICATION AND ACCEPTANCE: I certify that the statements herein are true and complete to the best of my knowledge, and accept the obligation to comply with Public Health Service terms and conditions if a grant is awarded as the result of this application. A willfully false certification is a criminal offense (42 U.S.C. Code, Title 18, Section 1001.)

SIGNATURE OF PERSON NAMED IN 16 (In ink. "Per" signature not acceptable)

Sue



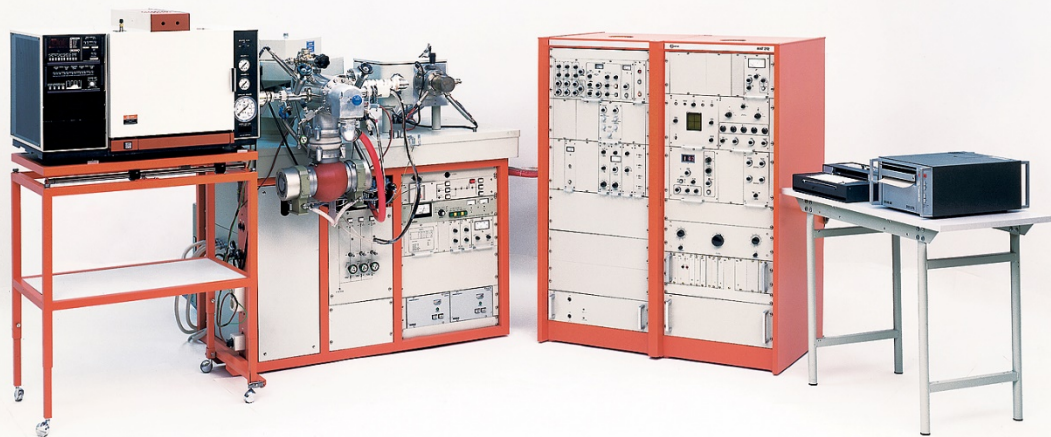
**Finnigan MAT212
GC/MS, FAB, moving belt LC interface
(first year of NIH SIG program)**



***(computer not shown)
(you can assume it was not very small)***



**Finnigan MAT212
GC/MS, FAB, moving belt LC interface
(first year of NIH SIG program)**



*(computer not shown)
(you can assume it was not very small)*

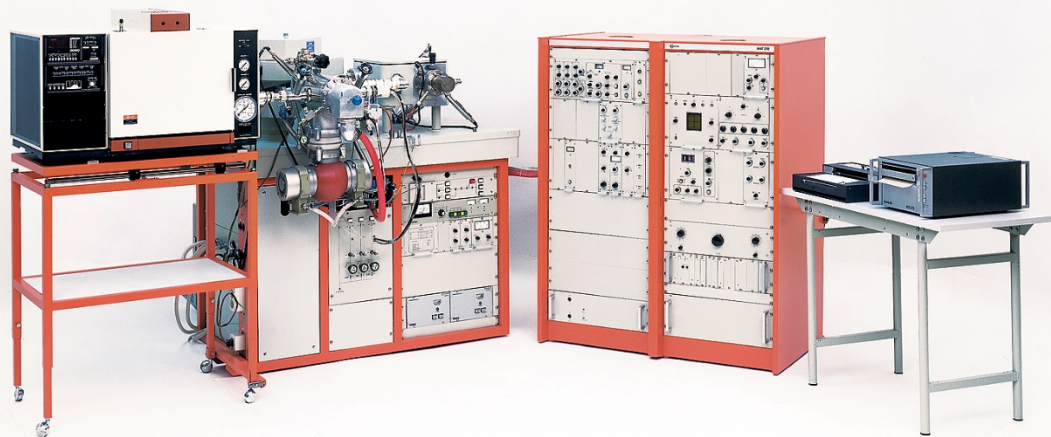
engine hoist





NIH S10 has been around a while

**Finnigan MAT212
GC/MS, FAB, moving belt LC interface
(first year of NIH SIG program)**



*(computer not shown)
(you can assume it was not very small)*

engine hoist

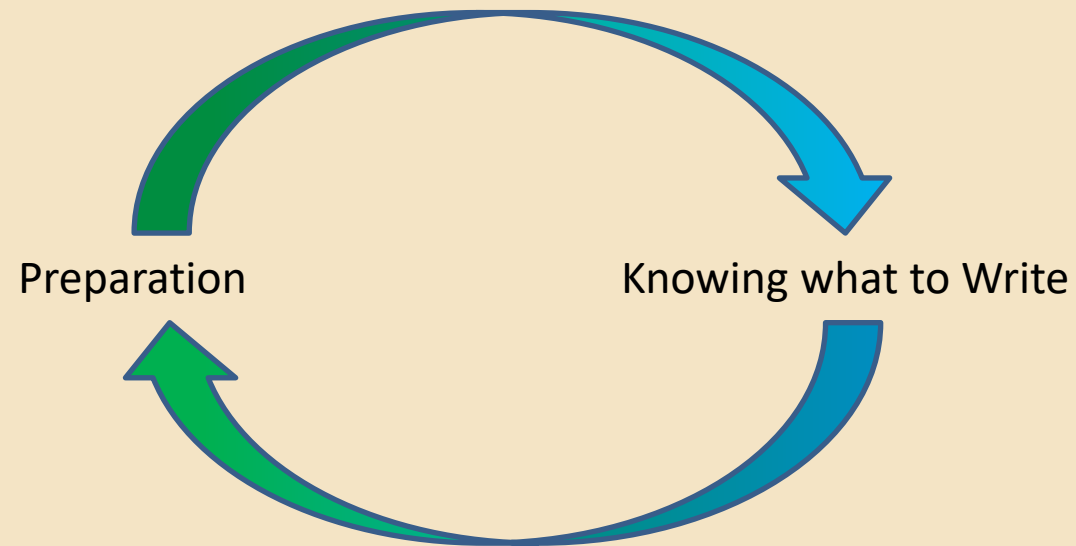
**Sue Weintraub
(1982)**





Why Prepare?

- Thorough preparation will help you immensely when you write.
- If you know what you will need to write, you will prepare better!





1. NIH S10 Overview

1. What is an S10?

a. Purpose – shared instrumentation

S10 Instrumentation Grant Programs support purchases of state-of-the-art, commercially-available instruments for shared use to enhance the research of NIH-funded investigators. Instruments that are awarded are typically too expensive to be obtained by an individual investigator funded by a research project grant.

b. Due Date: June 1, 2023 (the next one is June 3, 2024)



1. NIH S10 Overview

1. What is an S10?

- e. Three funding levels (differentiate mainly by dollar amount)
 - a. BIG - \$50 – 250k + no S10 instrumentation funding of \$250,001 or greater in any of the preceding three Federal fiscal years
 - <https://grants.nih.gov/grants/guide/pa-files/PAR-22-081.html>
 - b. S10 - \$50 – \$600k
 - <https://grants.nih.gov/grants/guide/pa-files/PAR-22-080.html>
 - c. HEI - \$600k – \$2M
 - <https://grants.nih.gov/grants/guide/pa-files/PAR-22-079.html>
- f. Three main justification types
 - i. Replacing an aging essential and heavily utilized instrument (could be dead)
 - ii. Acquiring additional instrument to alleviate capacity/access constraints
 - iii. Acquiring an instrument that offers new functionality or capability to the institution in support of NIH-sponsored research

Sections

1. Justification of Need

- What do you need and why?
- What is the impact of the instrument?
- Other instruments/technologies that could meet your needs?

2. Technical Expertise

- Description of Core/Facility
- Qualifications and experience of Facility Director and staff

3. Research Summaries

- Summary of Major and Minor Users
- How will the instrument impact and advance their NIH-funded research?
- How will the Users access or use the instrument?

4. Summary Tables

- Accessible User Time (AUT)
- User need for requested accessories



1. NIH S10 Overview

Sections, continued

5. Administration or Organization/Management Plan

- Where will the instrument be located and how will it be incorporated into the research pipeline?
- Advisory Committee
- Financial plan for long-term support (Years 1-5 and beyond)
- Data management (and sharing) plan

6. Institutional Commitment

- Dedicated for staff and/or funds for their support
- Institutional commitment of support essential; departmental, college nice to have
- Cost sharing is not required! If institutional funds are being provided, apply those to auxiliary needs (i.e., service contracts), not to the instrument unless the cost is above the program limit.

7. Overall Benefit

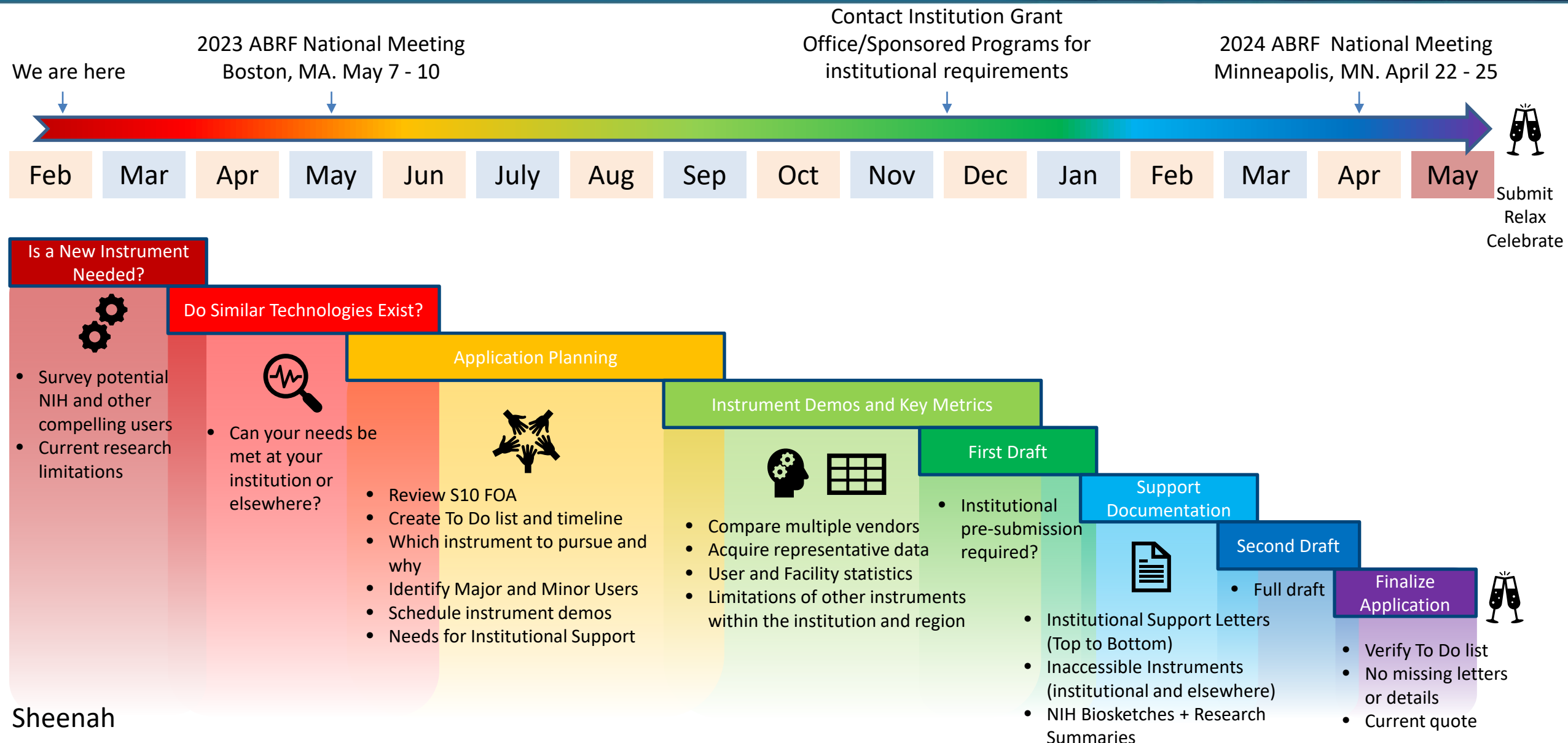
- A summary of the above sections plus a prospectus on long-term impact on research and infrastructure (3 page maximum, but wide variation among applications)

8. Letters of Support and Commitment

- Institutional commitment along with other letters of support (department, college, division...)
- Letters stating why you cannot access similar instrument(s) (if applicable)
 - If you make a claim related to access, you need a letter validating/confirming your claim

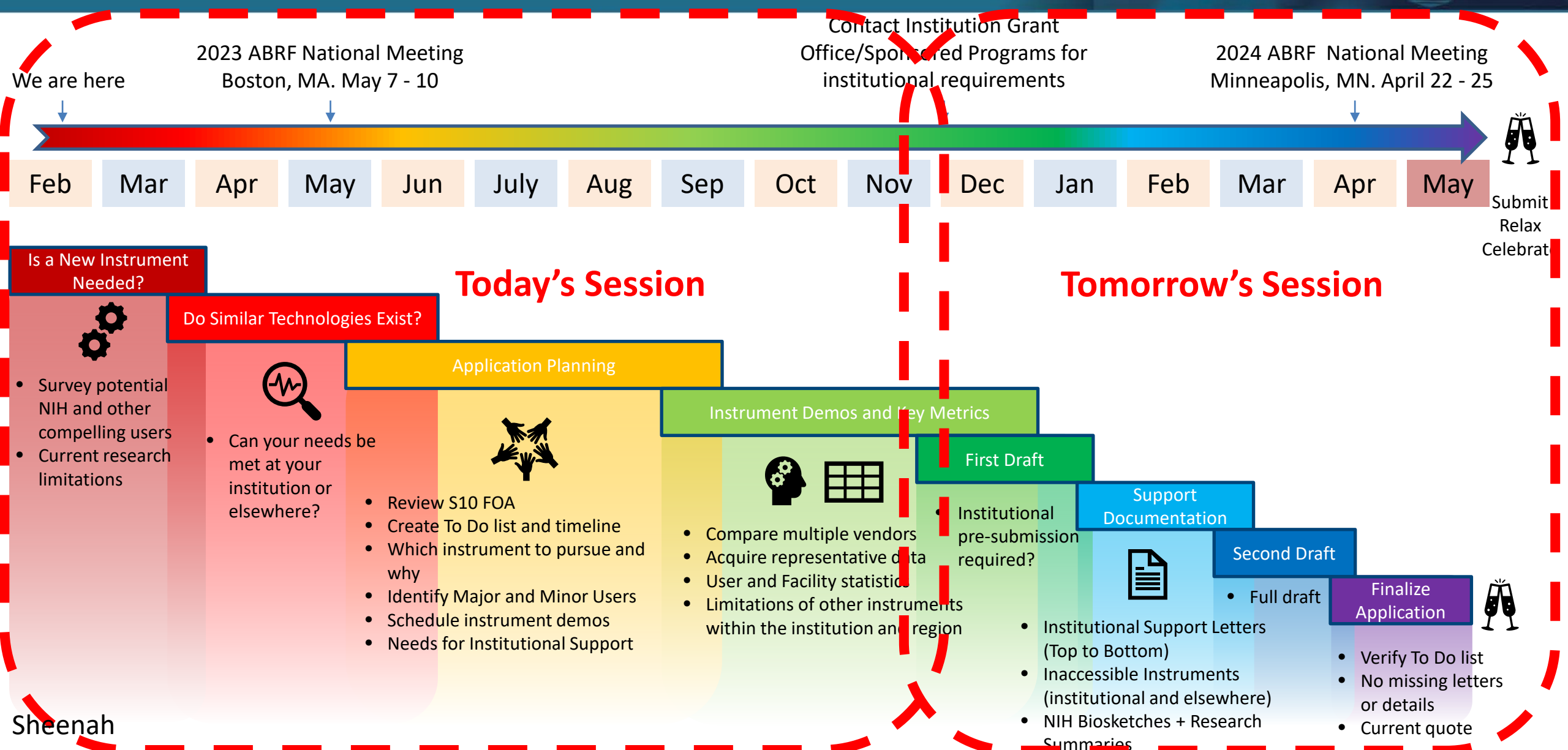


2. Writing a NIH Shared Instrumentation Grant: Proposed proposal development timeline





2. Writing a NIH Shared Instrumentation Grant: Proposed proposal development timeline



3. Timeline Steps

Who can be OR should be the PI?

- I. Does your institution allow you to submit NIH proposals?
- II. It is optimal that the PI knows the technology and will provide direct oversight of the instrument
- III. Per the S10 program, the PI *does not* need to be a:
 - Major or Minor User
 - Tenure-track faculty member
 - Recipient of NIH or other funding



3. Timeline Steps

A. Do you need a new instrument? (Justification of Need)

I. Which one and Why?

- The “Why” is key

II. What about this instrument is unique?

- How will this instrument advance and impact research of the User Group?

III. Where will the instrument be placed?

3. Timeline Steps

B. Are similar technologies present and are they accessible?

(Justification of Need)

I. Are there similar technologies that can meet these needs locally?

- Within your institution?
- Within the region?
- If there are similar technologies, can you access them?
- Essentially, what makes your request compelling?
- Do not make assumptions about what you think the reviewers will know/understand

II. Where will the new instrument be located?

- Will it be housed in an existing Core?
- If not, why not?
- Who will be responsible for the day-to-day operation, management and maintenance?
- Who will run the samples/train the Users?
- How will it be accessed

C. Application Preparation (Justification of Need, Research Summaries)

I. Review S10 FOA (Funding Opportunity Announcement)

- Create to-do and check lists for each section
- Become familiar with proposal organization, requirements and page limits

II. Talk to potential Major and Minor Users

- NIH-funded investigators preferred
- What do they need and why?

III. Speak with instrument vendors

- What do they offer?
- Find out about availability of demos and/or how to arrange for submission of samples

C. Application Preparation (Justification of Need, Research Summaries)

IV. Consult with your colleagues who have applied before.

- The ABRF is a great resource for this.
- Does your institution have copies of previous applications?

V. What will you need for your institutional support?

- How are you going to pay for the service contract?
 - If a service contract is not needed, convincing explanation/documentation about how the instrument will be maintained needs to be provided.
- Do you have qualified staff for the instrument? How are their salaries supported?
- Where will the instrument be located? Are renovations needed? (Renovations cannot be included in an S10 grant application.)

D. Instrument Demos (Justification of Need, Research Summaries, Summary Tables)

I. Compare multiple technologies/instruments

- Need to justify which technology/instrument, all of its features, and why
- Are on-site demos feasible or can you travel/ship samples?

II. Acquire data that are relevant to your major and minor users

- Preliminary/example data add strength to the research summaries
 - Especially if the demo results are representative for multiple users
- Data must be clear and concise
 - Results need to be clearly explained and connected to the needs of the users

III. Make sure all instrument accessories will be used by multiple Users

- You will need to clearly describe the feature/accessory?
- Can you explain convincingly why the users need the requested accessories?



4. Open Q & A



Please contact us with your questions!

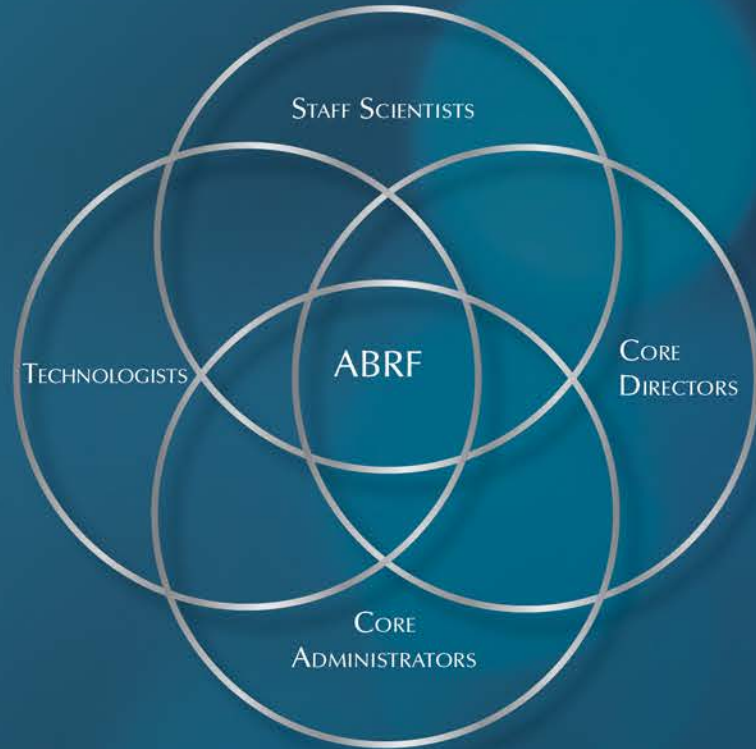
Joe Dragavon: joseph.dragavon@colorado.edu

Sheenah Mische: sheenah.mische@nyulangone.org

Sue Weintraub: weintraub@uthscsa.edu



The Association of
Biomolecular Resource
Facilities



**ABRF: at the Core of Research
Excellence and Sustainability
(CORES)**





The Association of
Biomolecular Resource
Facilities

NIH S10 Grant Applications for Shared Instrumentation: Tips, Tidbits and Informed Suggestions

Part 2: Writing the Proposal – Essentials for Each Section

February 16, 2023



Joe Dragavon

University of Colorado Boulder

- 0 successful NIH S10 Awards (but I just got a 30 so I'm on the verge!)

Sheenah Mische

NYU Langone Grossman School of Medicine

- 10 successful NIH S10 Awards for DART Cores

Sue Weintraub

UT Health San Antonio

- 9 successful NIH S10 Awards
- Also known as the "Queen" of the S10 program

1. Structure of the session

- Day 1 – Developing the Foundation
- **Day 2 – Writing the proposal**

2. Questions are welcome at any time

- Please put your questions in the chat. We will try to answer as many as we can.
- While questions are welcome, we'll aim to stay on task so that the material is covered.
- There is an open Q&A session at the end for additional discussion.

3. Want to hear more?

- Attend the Shared Instrumentation Grant Opportunities session at ABRF 2023 in Boston
- Conference: May 7 – 10
- Session (and breakout): May 8
- Representatives from: NIH, NSF, Massachusetts Life Sciences Center

1. How is your proposal scored?

Scoring Process

- 1. Critiques of your proposal will be prepared by three members of the review panel**
 - They are usually experts or at least very familiar with your technology, but this is not an absolute.
 - If you are asking for a very unique instrument, one or more of your assigned reviewers may not be knowledgeable about the technology.
- 2. You will receive an individual score from the assigned reviewers for each of the five categories listed below, using a scale of 1 (best) through 10 (worst):**
 - Justification of Need
 - Technical Expertise
 - Research Projects
 - Administration
 - Institutional Commitment
- 3. Assigned reviewers will provide an overall impact score that is a measure of their enthusiasm for the proposal as a whole.**



1. How is your proposal scored?

Scoring Process

4. **There is often a selection process in which only the applications considered as having the highest scientific and technical merit (generally the top half of applications under review - lower numerical scores) are discussed and assigned an overall impact score.**
 - S10 proposal scores are not percentiled.



2. Sections

1. Justification of Need (9 pages maximum)

- What do you need and why?
- What is the research impact of the instrument?
- Are there other instruments/technologies that can meet the needs of the Users AND are accessible?
- Why this instrument instead of a lower-cost model or other commercially-available option?

Document Format

1. Arial 11
2. ½-inch margins



2. Sections

2. Technical Expertise (3 pages maximum)

- Description of Core/Facility
- Qualifications and experience of Facility Director and Staff
- If not going into a Core, why not?
- Who will oversee the day-to-day operation/management?
- Clearly describe the expertise of the director and staff to train and ensure proper use of the instrument AND User and Instrument safety
- Who has the expertise for data processing and management?



2. Sections

3. Research Projects (30 pages maximum)

- 4 pages max for each Major User
- 4 pages total for all Minor Users
- Summary Table of Major and Minor Users
- How will the instrument impact and advance their NIH-funded research?
- Be clear and obvious regarding the benefits of the instrument AND all the requested features and accessories
 - Features of instrument need to be tied to needs of the users
 - Accessories are budget-related and need to be justified for a sufficient number of users



2. Sections

4. Summary Tables (6 pages maximum)

- Accessible User Time (AUT)
 - How much time and what percentage per User
- User need by feature/accessory



2. Sections

5. Administration or Organization/Management Plan (6 pages maximum)

- Where will the instrument be located and how will it be incorporated into the research pipeline?
- Instrument Advisory Committee
 - Major and minor users, non-user, someone from administration with institutional financial authority
 - An existing Core Advisory Committee is acceptable if there is appropriate representation
- Financial plan for long-term support
 - Years 1-5: Required
 - Years 6+: Not required, but useful if you have a clear plan
- Data management (and sharing) plan



2. Sections

6. Institutional Commitment (3 pages maximum)

- Clearly document dedicated support of staff and/or funds to hire needed personnel
- Institutional / Departmental/College support
- Cost sharing is not required! If institutional funds are being provided, apply those to auxiliary needs (i.e., service contracts or staff salaries), not to the instrument, unless the cost is greater than the program limit.
- Dedicated space and infrastructure



2. Sections

7. Overall Benefit (3 pages maximum)

- A summary of the above sections plus a prospectus on long-term impact on research and infrastructure



8. Letters of Support and Commitment

- Department/College/Institutional commitment letters
- Letters stating why you cannot access certain instruments (if applicable)
- If you make a claim related to access, you need a letter validating/confirming your claim
 - e.g., in a PI's lab and only available for their research, believable limitations related to transport of samples, biosafety concerns...

3. A lot of text...

If you add all the sections together...

1. Your proposal will include up to *60 pages of text!*

- That is a lot of pages with a range of information
- Clarity and specificity are essential
- Make the key details easy for the reviewer to find
- If something important is hidden in any way, the reviewer may miss it and and may be less enthusiastic about your proposal - so you will get a higher (not as good) score

You've turned your stuff in, now what?

1. Proposal is assigned to an appropriate Scientific Review Group/Scientific Review Officer (SRO).
2. The SRO will invite reviewers and a chair for an *ad hoc* panel.
3. Assigned reviewers read/evaluate the proposal, give preliminary scores and submit a preliminary critique
4. If scored well enough [usually in the top half (lower numerical scores) based on scientific and technical merit]
 - Presented at the meeting of the panel by assigned reviewers
 - Open to discussion by all panel members
 - Level of enthusiasm expressed and overall impact scores finalized
 - Assigned reviewers revise their critiques to be sure that their score matches their “words.”
 - SRO summarizes the discussion and combines with the critiques of the assigned reviewers.
 - Summary statement and overall impact score posted on ERA Commons
5. After initial peer review, recommended applications receive a second level of review by the Council of Councils (that decides the fate of the world)
 - The Council determines the priority order for funding.

Score Ranges (depends on the technology and the year)

- 10 – 15** Rare, but possible. Go out and celebrate (responsibly)!
- 15 – 20** You can feel reasonably confident (and you can have a drink).
Very few weaknesses found by the assigned reviewers
- 21 – 30** Borderline Score (in many cases did not make the first cut)
Has some/several perceived weaknesses (they may not be actual weaknesses - just clarification needed)
But, you should also prepare to resubmit because you never know...
- 31 +** Be glad your proposal was scored and discussed, but you have more work to do.
Numerous weaknesses noted or issues that need to be addressed
Plan on a full resubmission.
- Not scored** Proposal was not discussed during the review meeting. The critiques of the assigned reviewers will provide guidance for revision/resubmission.



6. Just In Time Narrative

What is the Just In Time (JIT) Narrative? This is a request from the Program Officer when you are often approaching the “Congratulations” phase of the application process

- Careful, though. Sometimes there are automated messages about the JIT that don't mean anything.
- These really get your hopes up...

The JIT Narrative consists of multiple items, including (among others):

- One sentence to summarize the purpose of the S10 instrument.
- A summary of any changes to the instrument type or price, institutional commitment, administration, substantial changes in AUT and other elements compared to the submitted/reviewd application.
- Responses to weaknesses cited in the summary statement (2 pages maximum for this response).
- Description of any new projects that were not included in the S10 application.
- If leasing, provide any additional leasing information, including justification that the instrument remains current and state-of-the art (Do not include information already provided elsewhere in this update). Attach official documents, as needed.
- Any other relevant information you wish to bring to the attention of Program Officer.



4. Open Q & A



Please contact us with your questions!

Joe Dragavon: joseph.dragavon@colorado.edu

Sheenah Mische: sheenah.mische@nyulangone.org

Sue Weintraub: weintraub@uthscsa.edu