

Vanderbilt University: SOP for NIH S10 Shared Instrumentation Grants

(Feb. 2022 Version)

These guidelines pertain to all faculty Principal Investigators (PIs) who have Primary Appointments in one of the Vanderbilt University Schools or Colleges, including the Vanderbilt School of Medicine Basic Sciences (VBS) for proposal requesting instrumentation that will be housed and managed in a VU core.

- *The School or College of the PI and its Dean are referred to here as the “Primary College” and “Primary Dean”.*
- *The School or College of Major or Minor User of the proposed instrumentation that is different from that of the PI is here referred to as the “Secondary College” and its Dean(s) as “Secondary Dean(s)”.*

If you are faculty with a Primary Appointment in a VUMC department and wish to submit an S10 application, please contact Dr. [Amy Martinez](#) in the VUMC Office of Research for guidance about the VUMC S10 program.

Eligible Programs

In 2022 there are two types of S10 grants for which VU investigators are eligible:

- (1) Shared Instrumentation Grant Program (SIG)** The SIG Program funds grant awards in the \$50,000 to \$600,000 range.
- (2) High-End Instrumentation Grant Program (HEI)** The HEI Program funds grant awards in the \$600,001 to \$2,000,000 range.

S10 Program Announcement

- The Associate Dean for Research of Vanderbilt School of Medicine Basic Sciences (VBS) will forward the S10 Program Announcements to its faculty as soon as they become available. The Office of the Vice Provost for Research (OVPR) will do the same for all other non-VBS VU deans and faculty. The NIH submission deadline for the S10 programs is June 1.
- Interested faculty should carefully read the relevant NIH S10 program description, including proposal preparation instructions. Links to these program descriptions are found at: <https://orip.nih.gov/construction-and-instruments/s10-instrumentation-programs>.
- As early as possible, investigators are highly encouraged to send a brief email to chuck.sanders@vanderbiltDOTedu (VBS investigators) or susannah.a.imhoff@vanderbiltDOTedu (other VU) to share their intent to apply, prior to starting a pre-proposal. Include PI, partnering core, and brief equipment description (<5 sentences). This information is needed so that VU and VUMC can cross-check their slates of proposals to make sure that both institutions do not prepare proposals with overlapping objectives. By flagging any such conundrums early it can be determined which institution should take the lead in preparing and submitting a proposal.
- Faculty will need to submit a **pre-proposal in REDCap** by the date stated in the S10 Program Announcement. For the current year, the pre-application deadline is April 1. Prospective PIs should be aware of and note the following:
 - *The pre-application process will take some time to work through.* Therefore, it is essential that PIs begin working on their applications early.
 - Pre-applications are usually given the green light for full proposal submission to the NIH.

- Most of the pre-application process involves preparing documents that are also required for the full proposal. So, most of the work remaining to be done after the pre-proposal is submitted will be writing the full project.

More time will likely be needed to complete the pre-proposal than is available at one sitting. PIs can therefore save the data from completed questions, come back to the survey later and begin answering questions exactly where they left off. To do this, go to the bottom of the survey and select **“Save and Return”**. A unique **“RETURN CODE”** will be assigned by REDCap and it will be required to sign back in to the survey. To finish, applicants simply go back to the survey and select the **“RETURNING”** option in the upper right corner. The survey will ask for your **“RETURN CODE”** as your login credential.

Matching Funds

The S10 Pre-Proposal requires information regarding institutional matching commitments. **Commitments from all relevant Deans must be secured prior to submitting the pre-proposal.** Commitments from other VU schools/colleges to the Primary Dean must be made Dean-to-Dean using a form that can be downloaded from the **Basic Sciences S10 Website**.

- Develop your matching funds/support plan. There are up to four components, as follows:
 - (1) The relevant Dean or Associate Dean for Research (into whose Core the instrument will be installed) will indicate in a letter their unambiguous commitment to provide funds as needed to maintain operation of the instrument in the unexpected case where the financial plan falls short of its projected income for a period of five years, starting from completed installation of the equipment. A number is not provided.
 - (2) There will also be a commitment of extra matching funds for costs related to establishing and maintaining the instrument, including service contracts, technical salary support, and supplies. For this a standard formula is applied to determine the size of the match:

<u>Equipment Cost</u>	<u>Total Match (paid over 5 years)</u>
>\$600K (HEI)	Variable Contact your dean and either C. Sanders (VBS investigators) or S. Acuff Imhoff (other VU)
\$500 - 600K	\$100,000
\$450 - 499K	\$75,000
\$300 - 449K	\$35,000
\$100 - 299K	\$25,000

Note that these matching funds are not used in the purchase of the instrument, but instead are paid out over a 5-year period by the Dean’s office to the Core that houses the acquired instrument.

- (3) Finally, if there are other major commitments that are required for the installation and running of this instrument that cannot be paid for with S10 grant funds (read program description carefully) and are not covered by the matching funds, these will also need to be spelled out in the grant. In addition, a commitment from the primary Dean (into whose Core the instrument will be installed) to cover these commitments will be required. Such items include a commitment of space to house the instrument (if not already available in the core), renovation costs, IT network costs, costs of software, computers, or storage devices that are not part of the instrument package, new personnel costs, costs of service contracts past year 1, etc.
- (4) If the instrument costs more than \$2,000,000 then you will need to secure from your Dean (or the relevant Deans) a commitment to cover the difference in the purchase price.

- The PI should then communicate with the office of their own Dean to make sure they are willing to cover these three components of the match. If there are users from other colleges on the proposal, then it would be customary for the office of the primary dean to then ask for contributions from secondary Deans based on projected % usage of the requested instrument by investigators from their school of college. For example, if the PI is from Arts & Sciences and there is anticipated usage of 15% VBS investigators, then the Dean of VBS may be requested to cover 15% of the match. Matching/support funds are transferred between colleges after an award is made. There is a standard template at the **VU Basic Sciences S10 Website** for a Dean-to-Dean letter that should be completed by the secondary dean(s) and submitted to the dean of the PI prior to completion of the S10 pre-proposal. Any such Dean-to-Dean letter should be uploaded as part of the RedCap pre-application. The same web site file also contains a template letter for the primary dean to complete committing the full required matching funds for a proposal (with the caveat that some of the funds may originate from another contributing college). This letter is required for upload as part of the RedCap pre-application. **(Both templates are found in the same linked file, which is named “S10_Dean_to_Dean_and_Dean_to_VPR_Templates”.**
- For S10 proposals being led by VBS, the matching commitment required to cover major (10% or more) and minor (less than 10%) use by VUMC investigators will normally be covered by VBS. It is understood that VUMC will normally reciprocate on VUMC-led proposals involving VBS investigators, such that VBS will not make matching commitments for VUMC-based proposals that include VBS users. There may, of course, be instances where some VU/VUMC cross-commitments are made, but this usually will be flagged and set up at the level of the Dean/Research offices of the two institutions.
- For VU proposals originating in other (non-VBS) colleges that include VUMC users, there is not yet an agreement in place regarding how matching for the VUMC investigators is handled. There is, as yet, also no formal agreement for how matching funds would be dealt with for VU Engineering or Arts & Sciences investigators who are listed as users on VUMC-based proposals. The matching arrangement for each non-VBS-based VU proposal that involves VUMC investigators will therefore need to be negotiated between the office of the relevant VU Dean and VUMC, with the VUMC Office of Research serving an initial point of contact (see below). Do not hesitate to make this contact.
- Note that the Dean of Vanderbilt School of Medicine Basic Sciences (VBS) will usually provide matching funds ONLY if the instrument to be acquired will be housed and maintained within a Core. This is the case even for proposals based in a different school or college. When considering this, note that:
 - A PI who wishes to submit an S10 grant application without a commitment to place it under Core Management should realize that the lack of an institutional commitment letter may be viewed unfavorably by NIH reviewers and administrators.
 - In rare cases, PIs may be able to line up matching funds from some other source, such as directly from their department. If this occurs, the matching letter included in the grant would come from the department Chair. Even in this case, the PI is still encouraged to consult with their Dean to make sure there are no issues the PI/department chair should be aware of related to a possible proposal.
- PIs from non-VBS schools or colleges should consult with their primary Dean to determine if there are any pre-requisites to securing matching commitments that apply to them such as that outlined immediately above.
- PIs are advised that it is usually unwise for them to directly approach secondary deans to ask for their support. Instead, the PI should (1) work with their own Dean’s office, who can make the appropriate communications with the office of the secondary dean to help secure the needed matching/support commitment and also (2) ask major and minor users from other colleges to approach their respective Deans to advocate for their commitment based on the % of total instrument time devoted to faculty from that college. It would be usual and proper for there to be communication between the offices of the primary Dean and the secondary Dean at this point. It is emphasized that the total commitment made by any entity will, if the proposal is successful, need to be paid out only over five years, not in one lump sum.

- Note that for the final proposal, the Institutional Matching Support Letter (different from the Statement of Support) will be a single letter provided by the Primary Dean of the PI, which will indicate the total VU commitment (which may include contributions from multiple schools/colleges). Matching funds letters are normally provided by the Dean's office only after submission and approval of the pre-proposal.

S10 Pre-Proposal Submission

All Faculty leading a proposal must complete a pre-proposal in the **VU S10 RedCap Survey** regardless of where the instrument will be housed. This pre-proposal goes to the Office of the Vice Provost for Research (OVPR) for approval. The following list of items includes information which will be requested from the PI in the pre-proposal survey:

- Description of the proposed instrument(s).
- Vendor's quote for the proposed instrument and any associated accessories, maintenance contract, etc.
- Identify in which VU Core Facility or Shared Resource the proposed instrument will be housed.
- Identify the physical location for the proposed instrument.
- Will any renovations be required prior to instrument installation? If so, please describe.
 - A renovation budget will be required before the application has final approval for NIH submission.
 - For PIs who are primary in VBS, Dr. Tharp can assist with obtaining estimates from VU Plant Operations or VUMC Facilities Management. PIs from other schools will work with staff in their Dean's office to obtain estimates.

Will this instrument generate large amounts of data that need to be stored and/or transferred to the labs of remote users? If so, what is the IT plan for data storage and transfer? Note that for VBS faculty or equipment going into a VBS core: As a general principle, if there is the need for storage of large data sets, this should be carefully taken into account during planning for instrument acquisition and storage. If you are a VBS faculty and need assistance assessing major IT needs and determining a cost estimate, please contact the Associate Dean for Research of Basics Sciences (currently chuck.sanders@vanderbiltDOTedu) for assistance.

The IT info should include:

- Will a computer and/or local storage device need to be purchased and installed with the new instrument? (If so, please read the program announcement carefully and consult with the NIH S10 program officer to see if it is advisable to request such a device as part of the instrument acquisition proposal that will be submitted).
- If large amount of data will need to be routinely transferred from the instrument to remote sites, is it feasible to do this in a timely fashion through the existing VU/VUMC network switches and pipes or will there need to be an IT upgrade project to enhance the existing system?
- What is the budget required to cover the cost of the potential IT needs alluded to above?
- If some or all of the IT equipment/installation costs are not going to be directly covered by the S10 grant then you will also need to specify where the money is going to come from to pay for it (see Matching Funds section above).
- Provide information on the instrument's user group by providing projections for usage per the guidelines below.
 - At least 3 of the Major Users must be a PI of an active NIH research grant, with these major users requiring at least 35% of the instrument time. As long as this requirement is satisfied, additional major users do not need to have NIH funding (although see next point)
 - Per NIH guidelines, 75% of the instrument use must be dedicated to NIH-funded projects.

- Please work closely with the Core Director to generate a spreadsheet to identify all major and minor (less than 10% each) users by name, primary department, and projected % use of the instrument. The total percent for all major and minor users must equal 100%.
 - The category of “other” or “miscellaneous” in which users are not explicitly named is NOT permitted. Also, time devoted to equipment maintenance or upgrades is not included in the 100% usage breakdown.
 - If a user is from outside of both VU and VUMC, permission must be sought from the office of the primary Dean of the lead PI for the proposal to include them. This is because that Dean will be responsible for the committing the % of matching funds corresponding to the project use by this non-VU/VUMC investigator of the instrument.
 - Spreadsheets must include the following for each major and minor user: name, primary department, descriptive research project title, relevant NIH grant number (if applicable), and the estimated % of total Usage.
 - Upload all of the above data into the Redcap survey.
- Provide an abstract
 - The abstract is meant to serve as a succinct and accurate description of the requested instrument and the need of the research projects for the instrument.
 - State the application's broad, long-term objectives, concisely describing how access to the instrument will enhance the health-related goals of the research projects.
 - The abstract should be informative to other persons working in the same or related fields and should be understandable to a scientifically or technically literate reader.
 - Please Note: **The abstract should be no longer than 30 lines of text with 11 point font.**
- Are there other equipment details to be considered?
 - Are there other required costs beyond the equipment purchase and renovations (i.e., warranties, maintenance plans, personnel support, etc.)?
 - Provide a complete 5-year budget for the project.
 - Include all applicable expenses needing to be funded (i.e., Renovation and IT costs, instrument and consumable purchases, upkeep and service contracts and etc.).
 - Please note: Under the S10 mechanism, funding requests are limited to the purchase cost of the instrument only. Support for technical personnel, service contracts, extended warranties, and supplies are not allowable. Also, the program does not provide facilities and administrative (F&A) costs or support for construction or alterations or renovations. However, the costs of these items can, upon approval by the relevant Dean(s), be covered as part of the University match. If so, these items should be included in the 5-year budget.
 - It is expected that the sum total of **the 5-year costs will be covered by a combination of the S10 award funds, revenue from usage in the core, and the matching/support commitment**
 - The PI is strongly encouraged to work with the Core Director and the appropriate person in the office of their Primary Dean to prepare this budget. Example budgets may be requested from the OVPR or the Associate Dean for Research of VBS. A list of VBS-housed Cores is found at the following link: <https://medschool.vanderbilt.edu/basic-sciences/core-facilities/>
 - What is the financial and operational plan for this instrument?
 - Describe the plan for the following:
 - Integrating the instrument into the core
 - Instrument Management
 - Operational Support

- User Access
 - *Cost Recovery which should include a Business Plan
- *Note: A PI can choose to submit a pre-proposal without including a complete Cost Recovery/Business Plan (which could be the case for PIs who are not Center or Core directors). However, this information is required for the final proposal. In such cases, the PI will be given extra time to work with the relevant Core Director to assemble the needed information. After initial review of a pre-proposal that does not include this document, the Dean/OVPR offices may request this information before a decision is made whether to authorize submission of a proposal to NIH.
- Combined Statement of Support
 - A Combined Statement of Support is a requirement if the PI is seeking institutional matching funds. This Statement is different from the Institutional Matching Support Letter from the Primary Dean (below). A template Combined Statement of Support is found at the **Vanderbilt Basic Sciences S10 Web Page**.
 - The Combined Statement of Support must be signed by the departmental Chair or Center Director of the core where the instrument will be housed and the Core Director.
 - The Statement provides assurance that the PI, Chair/Center Director and Core Director have vetted the value of adding the instrument to the core versus the financial risk.
 - The Statement is also a declaration confirming that both parties agree to house the instrument and oversee the maintenance and operation for its projected lifetime (~ 5 years).
 - For your convenience, please download the template statement provided within the REDCap survey, obtain the appropriate signatures and upload it before submitting the pre-proposal.
- What will the matching/support commitment be? **Dean-to-Dean commitments from all relevant Deans must be secured and uploaded prior to submitting the pre-proposal. The primary Dean must also complete a letter pledging 100% of the match (with the caveat that some of the funds may be coming from contributions from other deans, as indicated in their Dean-to-Dean letters). This letter from the primary Dean must also be uploaded. The templates for the two types of pre-application matching letters are found in the same file at the VU Basic Sciences S10 Website.** See the above section on Matching Commitments for guidance.

Approval Process for Pre-proposals

- All VU pre-proposals will be reviewed by the Office of the Vice Provost for Research (OVPR) as they are submitted in REDCap. If additional information is needed, it will be requested from the PI or the Office of the relevant Primary Dean. Once all requirements are fulfilled, the OVPR will confirm with the PI and Core Director via email. **Proposals that do not include key components of the pre-proposal such as a complete set of matching fund commitments from the relevant Dean(s) will not be certified as complete and will be returned to the PI.**
- The OVPR will ensure that for each pre-proposal there is no redundancy with existing equipment/facilities or competition with another submission from VU or VUMC. In such cases, there will be coordination between the Office of the Vice Provost for Research, the Deans of the relevant colleges/schools, the PI, and (if relevant) the VUMC Office of Research to work out a final plan.
- Once it is determined that there are no overlaps between proposals or between proposed instrumentation and existing equipment, the OVPR will certify the list of approved pre-proposals and inform the PI and the primary Dean. In some cases, additional instructions may be provided regarding needed changes to the budget, etc. The date for this action should be at least 6 weeks before the proposal deadline.
- If the S10 program includes any opportunities that limit the number of applications Vanderbilt may submit or if the topic matter of two proposal is too similar, the Office of the Vice Provost for Research will conduct a down-

select competition if necessary to determine who will be allowed to submit (This has traditionally NOT been required).

- It should be anticipated that all pre-proposals will move forward to the final OVPR approval and submission process if no overlap occurs and no down-selects are necessary.
- At this point the final commitment letters to NIH are prepared for inclusion with the final proposal. One will be the Combined Statement of Support letter that was drafted at the preproposal stage and signed by the Core Director and either the relevant Center Director or Departmental Chair. The other will be the Institutional Matching Support letter provided by the primary Dean, which will reflect the summed commitments being made not only by that Dean, but also by other (secondary) Deans. This latter letter is not the same template letter that was written for the pre-application.
- If human, animal, or infectious materials, which could create a potential biohazard, are to be analyzed, a signed “Biosafety Letter of Support” is required from the institutional biosafety officer stating that the proposed containment plan has been reviewed and adheres to documented biosafety regulations. (This is not required for the internal pre-proposal). To secure this letter please submit the following items at least 3 weeks before the proposal submission deadline:
 - (i) Sections of the grant proposal that provide the following details:
 - a. a detailed description of the equipment including technical and safety feature specs
 - b. full characterization of the types of biomaterials that will interface with the equipment
 - c. location of the equipment
 - d. whether the equipment will be used/operated by core customers and/or core personnel only
 - e. point of contact for more information about the equipment, space and intended use
 - f. Vanderbilt Scientific Director or PI and department
 - (ii) Address information needed for the cover letter (who it should be addressed to- PI name, title, address, etc.)
 - (iii) Date the letter is needed and request that the letter be provided as a pdf file on institutional stationary.)

The above information should be sent to biosafety@vumc.org with “S10 letter of support request” in the subject line. Bettye Ridley & Richard DiTullio are the individuals who will be handling these requests this year. Requestors should be prompt and send all requested information to ensure that the Biosafety Team has ample time to address anything that may impact our ability to issue a letter of support.

- The OVPR will work to assemble the considerable body of data required by NIH for the final proposal regarding previous VU S10-funded instrumentation and associated publications.
- The PI will complete their proposal and submit through their home Department or Administrative Pod.
- After proposals have been scored by NIH, PIs should forward the review information from the NIH to the OVPR, who will share this information with the relevant Dean so that budgeting information for the awards (i.e., matching funds) can be updated.
- PIs and Core Managers should have a system for making sure all users of grant-acquired instrumentation cite the S10 (or related) grant support in all papers published that contain data generated by use of the grant-acquired instrument.

S10 Oversight Committee

- The S10 Oversight Committees are required per NIH guidelines for each project.

- Anthony Tharp will serve as the Dean of Basic Sciences' institutional member on VBS-based S10 Oversight Committees. Please include him in any meetings you are scheduling and on any communications to your committee. For S10 projects based in other schools/colleges, their Dean's office will appoint the institutional member of the required S10 Oversight committee associated with each project.
- Dr. Tharp (or the designee from another school/college) will report information gathered at meetings to the relevant Dean and Associate Dean of Research.

Office Contacts

- Dean's office, School of Medicine Basic Sciences: Charles Sanders
- Dean's office, School of Nursing: Mariann Piano
- Dean's office, College of Arts and Sciences: David Wright
- Dean's office, School of Engineering: Peter Cummings
- Office of the Vice Provost for Research: Susannah Acuff Imhoff
- Office of Research, Vanderbilt University Medical Center (VUMC): Amy Martinez

Addendum for VU School of Medicine Basic Sciences Faculty/Staff Only

This addendum provides additional information for VBS leadership, S10 PI, and Cores administrators. This same document also applies for NSF MRI grants and other equipment grants that involve VBS cores and matching funds commitments.

- Note that NIH S10 grants typically are active for 5 years.
- When a matching funds commitment is made, it is assumed that the total amount will be divided by the number of years of the active grant (usually 5), and "paid out" to the host Core for the new instrument in yearly installments. In other words, for a \$100K match to a standard S10 grant, \$20K per year for 5 years will be transferred from the Dean's office, through transfer request to the OCGA, to the VBS core that will host the new equipment (assuming the grant is funded). The exception to this rule is if the full sum of matching funds will be used either to help out with the one time purchase the primary instrument being acquired or for the one-time purchase of a maintenance contract or accessory instrumentation.

Typical items paid for using matching funds:

- maintenance contract
 - consumables for the new instrument
 - Core staff salary
 - IT purchases/upgrades
 - Building renovation
 - Purchase of primary instrument
 - Purchase of accessories to primary instrument or supporting instrumentation
- After a PI knows the total match, she or he should work with the host Core to prepare an internal VBS budget that spells out how the matching funds will be spent by year. This internal budget should be submitted to the Associate Dean for Research of VBS.
 - The Associate Dean for Research is responsible for notifying the Chief Business Officer (CBO) of VBS, as well as the Cores administration finance team of matching funds commitments (at pre-submission stage) and for forwarding a copy of the matching funds budget provided the PI.

- When the PI receives a score for their S10 proposal, s/he should send the score and a copy of the reviewer comments to the Associate Dean for Research. S/he should also provide these items to the relevant Core manager.
- When the PI receives a NOGA, s/he should forward a copy to the Associate Dean for Research (ADR). The ADR will then inform the CBO, the Cores administrative staff, and the Core manager.
- The CBO will make arrangements to transfer the first installment (project year 1) of matching funds, and any relevant remaining of the succeeding four years, into a COA/POET of the Core that will host the new instrument.
- PIs should be aware that they are required to prepare and submit progress reports to the funding organization for each of at least the first 5 years of operation. To prepare these documents, the PI will need to keep a tally of papers published each year that cite the grant that supports the new instrument. **It is critical that Core directors educate their users about the importance of citing the relevant S10 grant in any publications that come from their lab in which the S10-supported instrument was used.** The PI will also need to secure instrument use documentation that can be obtained from the Core administrators, who are based in Pod 2.