

Vanderbilt University: SOP for NIH S10 Shared Instrumentation Grants

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 a proposal requesting instrumentation that will be housed and managed in a VU core.

- *The School/College of the PI and its Dean are referred to here as the "Primary College" and "Primary Dean."*
- *The School/College of the Major or Minor User of the proposed instrumentation that is different from that of the PI is 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 2023 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 Vice Dean 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 and Innovation (OVPRI) will do the same for non-VBS VU deans and faculty. The NIH submission deadline for the S10 programs is June 1st.
- Interested faculty should carefully read the relevant NIH S10 program description, including proposal preparation instructions. The link to these program descriptions is <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 before 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 proposals to ensure that both institutions do not prepare proposals with overlapping objectives. By flagging such redundancies early, a determination can be made as to which institution should take the lead in preparing and submitting a proposal.
- Faculty must submit a **pre-proposal in REDCap** by the date stated in the S10 program announcement. For the current year, the pre-application deadline is March 31st. Prospective PIs should be aware of and note the following:
 - Working through the pre-application process will take some time. Therefore, PIs must 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 required for the full proposal. So, most of the work remaining after submitting the pre-proposal will be writing the full project.

Completing the pre-proposal will likely require more time than is available in one sitting. PIs can save their progress, return 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 into the survey. To finish, applicants return to the survey and select the "**RETURNING**" option in the upper right corner. The survey will require your "**RETURN CODE**" as your login credential.

Matching Funds

The S10 pre-proposal requires information regarding institutional matching commitments. **Please secure all relevant commitments from the Deans before submitting the pre-proposal.** Guarantees from other VU schools/colleges to the Primary Dean must be made Dean-to-Dean using the Basic Sciences S10 website "*Dean Matching Letters*" template.

- When developing your matching funds/support plan, there are up to four components, as follows:
 - (1) The relevant Dean or Associate Dean (whose Core the instrument will be installed) will indicate in a letter their unambiguous commitment to provide funds as needed to maintain the operation of the instrument for five years from the completed installation of the equipment. Including in the unexpected case where the financial plan falls short of its projected income. 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 five 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 for use in the purchase of the instrument but are paid out over a 5-year period by the Dean's office to the Core that houses the instrument.

- (3) Please provide sufficient details in the grant describing significant commitments required for the installation and operation of the instrument that cannot be paid with S10 grant funds (read the program description carefully) or by the matching funds. In addition, a guarantee from the Primary Dean (in whose Core the instrument will reside) to cover these commitments is required. Examples include a pledge of space (if not already available in the core), renovation costs, network IT costs, software, computers, storage devices not part of the instrument package, new personnel costs, service contracts beyond year 1, etc.
 - (4) Finally, if the instrument costs more than \$2,000,000, you must 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 ensure 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 ask for contributions from Secondary Deans based on projected % usage of the requested instrument by investigators from their school or college. For example, if the PI is from Arts & Sciences and there is an anticipated usage of 15% VBS investigators, the Dean of Arts & Sciences may request the Dean of VBS provide 15% of the match funds. Matching/support funds are transferred between

colleges after an award is made. A standard template, located on the VU Basic Sciences S10 webpage, for a Dean-to-Dean letter should be completed by the Secondary Dean(s) and submitted to the dean of the PI before completing the S10 pre-proposal. A template letter is also provided for the Primary Dean's commitment to the total required matching funds for a proposal (with the caveat that some funds may originate from another contributing college). The Primary Dean's commitment letter is required, and both letters should be uploaded as part of the RedCap pre-application. **(Both templates are in the same linked file, named "S10_Dean_to_Dean_and_Dean_to_VPR_Templates")**

- For VBS led S10 proposals, the matching commitment required to cover major (10% or more) and minor (less than 10%) use by VUMC investigators is typically covered by VBS. It is understood that VUMC will normally reciprocate on VUMC-led proposals involving VBS investigators. To this end, VBS will not make matching commitments for VUMC-based proposals that include VBS users. There may 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 regarding how matching for the VUMC investigators will be handled. There is also no formal agreement for how matching funds would be dealt with for VU Engineering or Arts & Sciences investigators listed as users on VUMC-based proposals. The matching arrangement negotiations for each non-VBS-based VU proposal that involves VUMC investigators will be between the office of the relevant VU Dean and VUMC, with the VUMC Office of Research serving as the initial point of contact (see below). **Do not hesitate to make this contact.**
- Note that the Dean of 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 from 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 NIH reviewers and administrators may view the lack of an institutional commitment letter unfavorably.
 - 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 in the grant will come from the Department Chair. Even in this case, the PI is still encouraged to consult with their Dean to ensure 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 prerequisites to securing matching commitments that apply to them, such as that outlined immediately above.
- It is usually unwise for PIs to directly approach Secondary Deans to ask for their support. The PI instead should work with their own Dean's office to make the appropriate communications with the office of the Secondary Dean to help secure the needed matching/support commitment. PIs should 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. At this point, communication between the offices of the Primary Dean and the Secondary Dean is appropriate. It is important to emphasize that the total commitment made by any entity will be paid in one lump sum but over five years if the proposal is successful.
- 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). The Dean's office normally provides matching funds letters only after submission and approval of the pre-proposal.

S10 Pre-Proposal Submission

All Faculty leading a proposal must complete a pre-proposal [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 and Innovation (OVPRI) for approval. The pre-proposal survey requests the following list of items:

- Description of the proposed instrument(s).
- Vendor's quote for the proposed instrument and any associated accessories, maintenance contract, etc.
- Identify 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 before instrument installation? If so, please describe.
 - A renovation budget will be required before the application has final approval for NIH submission.
 - For primary VBS PIs, Dr. Tharp can assist with obtaining estimates from VU Plant Operations or VUMC Facilities Management. PIs from other schools must work with their Dean's office staff to get 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 large data sets are expected, this should be carefully considered during instrument acquisition and storage planning. If you are a VBS faculty and need assistance assessing significant IT needs and determining a cost estimate, please get in touch with the Vice Dean of Basics Sciences (currently chuck.sanders@vanderbiltDOTedu).

The IT info should include the following:

- 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).
- Will an IT upgrade project be needed for existing VU/VUMC network switches and pipes to accommodate routine transfers from the instrument to remote sites?
- What is the budget required to cover the cost of the potential IT needs?
- If the S10 grant does not directly cover some or all of the IT equipment/installation costs, you must specify where the money comes from to pay for it (see the 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 (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 percentage for all major and minor users must equal 100%.
 - The "other" or "miscellaneous" category in which users are not explicitly named is prohibited. Also, time devoted to equipment maintenance or upgrades is not included in the 100% usage breakdown.
 - If a user is external to Vanderbilt, permission must be sought from the office of the primary Dean of the lead PI for their inclusion in the proposal. The Primary Dean will be responsible for committing the % of matching funds corresponding to the project by this non-VU/VUMC investigator's instrument use.
 - 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 should briefly and accurately describe the requested instrument and explain its need in the research project.
 - 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 understandable to a scientifically or technically knowledgeable 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 funding (i.e., renovation and IT costs, instrument and consumable purchases, upkeep and service contracts, 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, alterations, or renovations. However, the expenses of these items can be covered upon approval by the relevant Dean(s) as part of the University match. If so, these items must be included in the 5-year budget.
 - The expectation is that a combination of the S10 award funds, revenue from usage in the core, and the matching/support commitment will cover the total of the 5-year costs
 - 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. You can request example budgets from the OVPRI or the Vice Dean of VBS. Use the following link to find a list of VBS-housed Cores: <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 submit a pre-proposal without including a complete Cost Recovery/Business Plan (which could be the case for PIs that 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 an initial review of a pre-proposal that does not include this document, the Dean/OVPRI offices may request this information before deciding whether to authorize the submission of a proposal to NIH.
- Combined Statement of Support
 - A Combined Statement of Support is required if the PI seeks institutional matching funds. This statement differs from the Primary Dean's Institutional Matching Support Letter (below). The Vanderbilt Basic Sciences S10 web page contains a Combined Statement of Support template.

- The Department Chair or Center Director and the Core Director of the core where the instrument will be housed must sign the Combined Statement of Support.
 - The statement assures 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 also confirms that both parties agree to house the instrument and oversee the maintenance and operation for its projected lifetime (~ 5 years).
 - Please download the template statement on the Vanderbilt Basic Sciences S10 web page, obtain the appropriate signatures and upload it within the REDCap survey before submitting the pre-proposal.
- What will the matching/support commitment be? **Before submitting the pre-proposal, all relevant Dean-to-Dean commitments must be secured and uploaded. The Primary Dean must also complete and upload a letter pledging 100% of the match (with the caveat that some of the funds may come from contributions from other deans, as indicated in their Dean-to-Dean letters). The templates for the two types of pre-application matching letters are in the same file on the VU Basic Sciences S10 web page.** (See the above section on Matching Commitments for guidance.)

Approval Process for Pre-proposals

- The Office of the Vice Provost for Research and Innovation (OVPRI) will review all VU pre-proposals upon submission in REDCap. OVPRI will notify the PI or the office of the relevant Primary Dean if additional information is needed. Once all requirements are fulfilled, the OVPRI will confirm with the PI and Core Director via email. **Proposals missing critical components of the pre-proposal such as a complete set of matching fund commitments from the relevant Dean(s), will be returned to the PI as incomplete.**
- The OVPRI 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 OVPRI, the Deans of the relevant colleges/schools, the PI, and (if applicable) the VUMC Office of Research to work out a final plan.
- Once a determination that there are no overlaps between proposals or between proposed instrumentation and existing equipment is made, the OVPRI will certify the list of approved pre-proposals and inform the PI and the Primary Dean. In some cases, it may be necessary to provide additional instructions regarding needed changes to the budget, etc. The date for this action should be at least six weeks before the proposal deadline.
- If any S10 programmatic changes limit the number of applications Vanderbilt may submit, or if two proposals are too similar, the OVPRI will conduct a down-select competition if necessary to determine who will be allowed to submit (This has traditionally NOT been required).
- All pre-proposals should be anticipated to move forward to the final OVPRI 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 drafted at the preproposal stage and signed by the Core Director and the relevant Center Director or Departmental Chair. The other will be the Institutional Matching Support letter provided by the Primary Dean, reflecting the summed commitments made by that Dean and other (secondary) Deans. This letter is not the same template letter written for the pre-application.
- A signed "Biosafety Letter of Support" is required from the institutional biosafety officer if human, animal, or infectious materials, that could create a potential biohazard are to be analyzed. This letter should state that the proposed containment plan has been reviewed and adheres to documented biosafety regulations. (not required for the internal pre-proposal). To secure this letter, please submit the following items at least three weeks before the proposal submission deadline:

- (i) Sections of the grant proposal that provide the following details:
 - a. a detailed equipment description, including technical and safety feature specs
 - b. complete 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 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 a pdf file on institutional stationery.)

The PI should send the above information to VUBiosafety@vanderbilt.edu with "S10 letter of support request" in the subject line. 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 OVPRI 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 and submit their proposal through their home Department or Administrative Pod.
- After NIH has scored proposals, PIs should forward the review information from the NIH to the OVPRI, who will share this information with the relevant Dean so they can update budgeting information for the awards (i.e., matching funds).
- PIs and Core Managers should have a system for ensuring all users of grant-acquired instrumentation cite the S10 (or related) grant support in all published papers containing data generated by the grant-acquired instrument.

S10 Oversight Committee

- NIH guidelines require each project to have an S10 Oversight Committee.
- Selene Colon will serve as the Dean of Basic Sciences' institutional member on VBS-based S10 Oversight Committees. Please include her in any meetings you schedule and communications with 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. Colon (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 or Selene Colon
- Dean's Office, School of Nursing: Mariann Piano
- Dean's Office, College of Arts and Sciences: David Wright
- Dean's Office, School of Engineering: Cynthia Reinhart-King
- 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 document also applies to NSF MRI and other equipment grants involving VBS cores and matching funds commitments.

- Note that NIH S10 grants typically are active for five 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 five years will be transferred from the Dean's office, through a 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 entire sum of matching funds will be used either to help out with the one-time purchase of the primary instrument 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 renovations
 - Purchase of primary instrument
 - Purchase of accessories to the primary instrument or supporting instrumentation
- After a PI knows the total match, s/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. The PI must submit this internal budget to VBS's Vice Dean.
 - The Vice Dean is responsible for notifying the Chief Business Officer (CBO) of VBS and the Cores administration finance team of matching funds commitments (at the pre-submission stage) and for forwarding a copy of the matching funds budget provided by 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 Vice Dean (VD). The VD will then inform the CBO, Cores administrative staff, and the Core manager.
 - The CBO will arrange 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 must prepare and submit progress reports to the funding organization for at least the first five years of operation. To prepare these documents, the PI must keep a tally of papers published each year that cite the grant that supports the new instrument. **Core directors must educate their users about the importance of citing the relevant S10 grant in any publications from their lab in which the S10-supported instrument was used.** The PI will also need to secure instrument use documentation from the Core administrators based in Pod 2.