

RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

# SBIR/STTR Guide

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By New Ventures (NV)

<https://orc.rutgers.edu/startups>

This guide is for faculty, staff and students to present the fundamentals of Small Business Innovation Research (SBIR) and Small Business Technology Transfer Research (STTR) awards. Learn who is eligible, how to apply, how the funding programs are structured as well as resources and tips to enhance the success and impact of your application.



# RUTGERS

***This document was prepared by NV for background information purposes only. While NV endeavored to present accurate information, we cannot guarantee that this information is 100% correct and up-to-date. NV encourages the reader to pursue independent sources of information regarding this matter before making any related decisions.***

*Last update on 3/26/2019*

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## **What are SBIR and STTR Awards?**

Small Business Innovation Research (SBIR) and Small Business Technology Transfer Research (STTR) grants are U.S. congressionally mandated funds offered independently by participating federal agencies to small businesses. The law requires that federal agencies with large R&D budgets, allocate a percentage of their budget for distribution through SBIR and STTR opportunities. The goal of these opportunities is to engage small businesses in the national R&D arena.

The desired outcomes include the stimulation and commercialization of innovations, solutions to specific federal R&D needs and support of entrepreneurship (and the economic benefits that stem from it).

The awards are offered to small businesses in Phases for research and development activities on topics selected by participating agencies. Typically, a Phase I grant will be in the amount of \$100K-150K for early stage feasibility work. If successful, the project can be eligible for Phase II funding which typically ranges from \$350K-750K for prototype/proof-of-concept development. In all cases, the total amount of funding varies based on individual proposals and across the different agencies. Some companies will receive additional non-SBIR/STTR funding to continue to develop and commercialize their technology in Phase III. The innovations (and their intellectual property rights) developed during federally funded Phases belong to the company and are encouraged to be further developed and commercialized.

## **Who is eligible?**

Generally, small businesses owned and operating in the U.S. are eligible to receive SBIR and STTR funding.

- Be a small business with **500 or fewer employees**
- Be organized **for profit**
- Have its principal place of business in the United States
- Be registered on the SBIR/STTR Company Registry (<http://www.sbir.gov/registration>)
- Be greater than fifty percent (>50%) owned by U.S. citizens or lawfully admitted permanent resident aliens\*

In addition:

- For SBIRs, the primary employment of the principal investigator (PI) must be with the small business at the time of the award. Primary employment means that greater than fifty percent (>50%) of the principal investigator's **time** is spent employed by the small business.
  - The requirement is specific to time and not salary or income. In other words, 80% of the PI's salary can be coming from somewhere else, as long as 51% of his time is with the small business that is applying.
  - It is also important to emphasize that the time requirement begins at the time of the award. This means that no one has to quit their jobs until they know that they will be getting funds.
- For SBIRs, the proposing firm must perform at least 2/3rd of the R&D work in Phase I and at least 1/2 in Phase II. The remaining work can be subcontracted.

For details on eligibility, please see the SBA guide available at [https://www.sbir.gov/sites/default/files/elig\\_size\\_compliance\\_guide.pdf](https://www.sbir.gov/sites/default/files/elig_size_compliance_guide.pdf)

*\* SBIR (currently Not STTR as of 3/1/2015) funding may be offered to firms that are majority-owned by multiple venture capital operating companies, hedge funds, or private equity firms – so long as no one such firm owns or controls more than 50% of the equity (at least 50% of equity needs to be owned by US citizens or permanent residents). Please see the above link to the detailed eligibility guide for more information. As of July 2014, only the NIH is permitting applications from such companies.*

## **What is different between SBIR and STTR opportunities?**

1. The STTR program requires participation by universities, federally funded research and development centers (FFRDCs), and other non-profit research institutions. SBIR allows, but does not require university/FFRDC participation.
2. Each STTR proposal must be submitted by a team, which includes a small business and at least one research institution. The project must be divided such that the small business performs at least 40% of the work and the research institution(s) performs at least 30% of the work. Either party or a third party may perform the remaining 30% of the work. This translates to a minimum of 40% of the award money must go to the business and a minimum of 30% of the award money must also go to the institution.

3. The small business and its partnering center or institution are required to establish an intellectual property agreement detailing the allocation of intellectual property rights and rights to carry out follow-on research, development or commercialization activities.
4. Unlike the SBIR program, STTR does not require the Principal Investigator (PI) to be primarily employed by the small business. This allows for an academic PI (university research) in partnership with the applying small business.

Note: In both types of awards, the funding is paid from the government agency to the small business. At Rutgers, any academic research will be funded through a Sponsored Research Agreement established between Rutgers and the small business who successfully received the award. The Agreement will be negotiated and put into place by the Rutgers Office of Corporate Contracts (<https://ored.rutgers.edu/corporate-contracts>).

## Why should I apply?

Free and Early - Although competitive (~14.5% success rate across all agencies), SBIR/STTR awards are a source of non-dilutive funding to conduct early stage research that most non-government funding sources would consider too high-risk to invest in. This is NOT a loan and you are not giving away company equity.

- Chance to develop new innovations that your company can commercialize
- Research that is translatable into a product/service that benefits the lives of others (social good)
- Opportunity for entrepreneurship
- Create jobs and expanded financial opportunities
- Control/ownership of new IP stays with the awarded company

## Things to Consider before you apply

- Funding is not a sure thing.
  - In 2010 the average success rate over all the agencies for Phase I SBIR was around 16.6%
  - Phase II awards are not guaranteed. The average rate over all agencies in 2010 was about 55% (total Phase II awards vs. total Phase II proposals)
- Funding is not instant and is not a lump-sum
  - It will take up to 90 Days to receive a final decision on your proposal from most agencies (up to 1 year for NSF and NIH)
  - If selected for an award, the average time in months over all agencies between the phase I proposal deadline and the start of award was 6.6 months in 2010
- The award is for work and research done by the company, not in a professor's lab
  - For SBIRs, the proposing **firm** must perform at least 2/3 of the R&D work in Phase I and at least 1/2 in Phase II in a company-controlled facility.
  - The SBIR PI submitting the proposal must be 51% employed by the company

## Application success rates of Phase I SBIR applications by agency

AGENCY	SUCCESS RATE %
DOT	7
DHS	12
HHS	14
EPA	8
NASA	17
NSF	20
DOE	13
DOD	15
DOC	12
ED	9
USDA	12
All	13

\* Based on 2013 SBIR Phase I data

## Average Phase I Award Amount by agency

AGENCY ABBR	SUCCESS RATE
DOT	7
DHS	12
HHS	14
EPA	8
NASA	17
NSF	20
DOE	13
DOD	15
DOC	12
ED	9
USDA	12
All	13

\* Based on 2013 SBIR Phase I data

## Average Timeline by Agency

	USDA	DOC	DOD	ED	DOE	HHS	DHS	DOT	EPA	NASA	NSF
Average months between phase I proposal deadline and start of award	5.7	4.6	*	2.9	2.9	-	2	1.5	11	4.2	5.9
Percent of phase I awards dispersed in less than 6 months from proposal deadline	0	100	55	54	100	90	100	100	0	100	100
Average months between phase I end and phase II start	9.4	5.9	3.9	4.4	4.5	16.8	4.2	12.1	11	8.2	7.3

<b>Average months between phase II selection and phase II start</b>	2.9	0	*	0	1.7	-	3.5	5.3	1	2.5	0
<b>Percent of phase II awards dispersed in less than 3 months</b>	-	-	-	100	100	-	84	40	-	-	100

\* Based on 2013 SBIR Phase I data

## Average Agency Phase I Funding Amounts

AGENCY	AVERAGE AMOUNT
DHS	\$100,000
DOC	\$93,000
DOD	\$120,000
DOE	\$175,000
DOT	\$150,000
ED	\$119,000
EPA	\$80,000
HHS	\$234,000
NASA	\$132,000
NSF	\$149,000
USDA	\$98,000
<b>All</b>	<b>\$131,820</b>

\* Based on 2015 SBIR Phase I data

## How to Apply

SBIR and STTR grants are offered by individual federal agencies. Therefore, there are differences in the application process for different opportunities. In general, the application process starts with identifying a Topic and specific Opportunity that is relevant to your business. Depending on the agency, an Opportunity may be very specific (for example: “Alternative Materials for Tactical Vehicle Wheeled Hubs”) or relatively broad (for example: “Agricultural and Food Safety Biotechnology”). Once you select a topic, you will have to complete any pre-application requirements. These requirements vary depending on the agency and may include steps such as registering a login and password on a submission site. Once completed, follow the specific instructions for completing and submitting an application found in the solicitation. Some agencies may use grants.gov while others may have their own electronic system.

We highly recommend you read the entire solicitation before applying, even if you have applied before. Each agency has its own set of very specific requirements.

If you are a Rutgers researcher or are a startup licensing a Rutgers technology and considering pursuing SBIR/STTR funding, please contact us for our support. We are able to review/edit applications and potentially provide suggested language for key sections.

### **New Ventures (NV)**

Office of Research Commercialization  
2nd Floor – East Wing  
33 Knightsbridge Road  
Piscataway, NJ 08854  
<http://orc.rutgers.edu/startups>

Yair Harel  
Director of New Ventures  
[yair.harel@rutgers.edu](mailto:yair.harel@rutgers.edu)  
848-932-4473

Chris Pflaum  
Venture analyst  
[chris.pflaum@rutgers.edu](mailto:chris.pflaum@rutgers.edu)  
848-932-4487

#### Additional resources available from:

- The New Jersey Small Business Development Centers (NJSBDC) <http://www.njsbdc.com/sbir>
  - NJ based companies who plan to apply, can work directly with Randy Harmon who is a SBIR/STTR expert consultant, free of charge through the support from NJSBDC. Randy can work with you to decide if SBIR/STTR funding would be right for your business, help identify specific funding agencies and Opportunities, and assist with applications from initial draft stage through submission.

#### **Randy G. Harmon**

Phone: 908-754-3652

Email: [randygharmon@aol.com](mailto:randygharmon@aol.com)

Email: [rgharmon@njsbdc.com](mailto:rgharmon@njsbdc.com)

Website: [www.njsbdc.com/scitech](http://www.njsbdc.com/scitech)

- The U.S. Small Business Administration (SBA) <https://www.sba.gov/content/research-grants-small-businesses>

## **Subcontracting with Rutgers**

Rutgers is a research subcontractor on many SBIR and STTR funded projects each year including those from our startup companies. In cases where you plan to include Rutgers as a subcontractor in your application, you should go through the process of getting a Letter of Intent which you can include in your application.

### **Letter of Support Process**

The process of obtaining a Letter of Support from Rutgers begins with the Rutgers PI and the Small Business Concern agreeing on a **scope of work** and **project budget** (within the SBIR/STTR agency



allowable parameters). Once agreed, the PI must submit a Document Request through the internal Research Administration and Proposal Submission System (RAPSS) (<https://rapss.rutgers.edu>). The Rutgers Office of Corporate Contracts (OCC) will review the Document Request and generate an appropriate Letter of Support. If you are awarded funding through a SBIR/STTR grant, OCC will also negotiate and sign the research subcontract.

Required to be submitted for review by OCC:

- Budget
- Scope of Work
- Funding announcement (BAA/RFP/Solicitation) number

## List of Agencies

Topics and specific opportunities are offered by individual federal agencies and change year to year to match the R&D needs and priorities of each offering agency.

Depending on the field in which your small business operates in, you can search relevant agencies to see if there is an opportunity your business would be qualified and interested in pursuing. Below is a list of all 11 agencies currently offering SBIR funding and a link to their SBIR/STTR program's web page.

## Links to Agency Program Websites (SBIR)

- Department of Agriculture (**USDA**)- <http://nifa.usda.gov/program/small-business-innovation-research-program-sbir>
- Department of Commerce (**DOC**) – National Institute of Standards and Technology - <http://www.nist.gov/tpo/sbir/>
- Department of Commerce – National Oceanic and Atmospheric Administration - <http://techpartnerships.noaa.gov/SBIR.aspx>
- Department of Defense (**DoD**) - <http://www.acq.osd.mil/osbp/sbir/index.shtml>
- Department of Defense – Air Force - <http://www.afsbirsttr.af.mil/Program/Overview/>
- Department of Defense – Navy - <http://www.navysbir.com/>
- Department of Defense – Army - <https://www.armysbir.army.mil/>
- Department of Education (**ED**) - <http://www2.ed.gov/programs/sbir/index.html>
- Department of Energy (**DoE**) - <https://science.energy.gov/sbir/funding-opportunities/>
- Department of Health and Human Services (**HHS**- <https://www.sbir.gov/nih-solicitation-listing/open>
- Department of Homeland Security (**DHS**) - <https://sbir2.st.dhs.gov/portal/SBIR/>
- Department of Transportation (**DoT**) - <https://www.volpe.dot.gov/work-with-us/small-business-innovation-research>
- Environmental Protection Agency (**EPA**) - <https://www.epa.gov/sbir>
- National Aeronautics and Space Administration (**NASA**) - <https://sbir.gsfc.nasa.gov/>
- National Science Foundation (**NSF**) - <https://seedfund.nsf.gov/>

\*URL Links update on 7/16/2018

## Website to Find and Search Opportunities from All Agencies

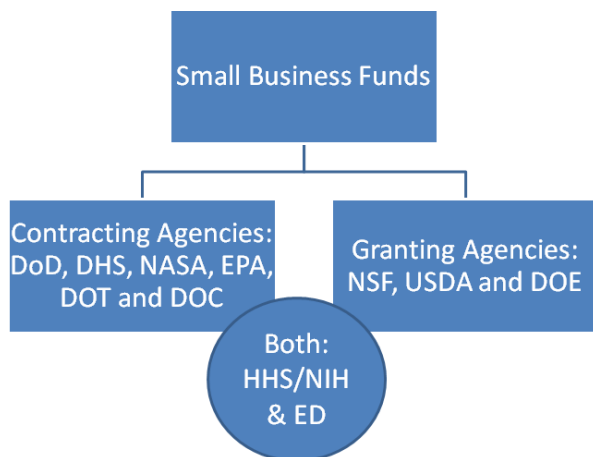
- Small Business Association - <https://www.sbir.gov/> **This website is highly recommended**

## Other Helpful Websites and Documents

- Phase I Commercialization Plan - <https://www.sbir.gov/tutorials/preparing-proposal/tutorial-6>
- SBA prepared policy directive - <https://www.sba.gov/advocacy/small-business-administrationsba-publishes-sbir-policy-directive>
- Tools for Entrepreneurs - <https://www.sbir.gov/tools>
- NIH SBIR Policies: <https://sbir.nih.gov/policy>
- NSF Phase I Awardees- <https://seedfund.nsf.gov/resources/awardees/phase-1/>
- NSF PostDoc sample mentoring plan - [https://research.fas.harvard.edu/files/research/files/sample\\_postdoc\\_mentoring\\_plan\\_without\\_links\\_october\\_2017\\_0-1.docx](https://research.fas.harvard.edu/files/research/files/sample_postdoc_mentoring_plan_without_links_october_2017_0-1.docx)

\*Links updated 7/16/2018

## Two award types: Grants v. Contracts



### Granting Agencies

Current granting agencies include: HHS/NIH, NSF, ED, USDA and DOE. In general, these awards are more flexible, pertain to less-specific topics and are investigator initiated. They can be related to more traditional government academic research grants.

### Contracting Agencies

Current contracting agencies include: DoD, DHS, HHS/NIH, NASA, ED, EPA, DOT and DOC. In general, contracts are highly focused with a deliverable for the

agency in mind. The agency establishes the plans, protocols, and requirements for the work to be carried out. These contracts provide for a procurement mechanism for DoD and NASA. It is important to note that the contracting agency could become a sustaining customer of your product. Some agencies offer both grants and contracts.

## Award Payment Schedule

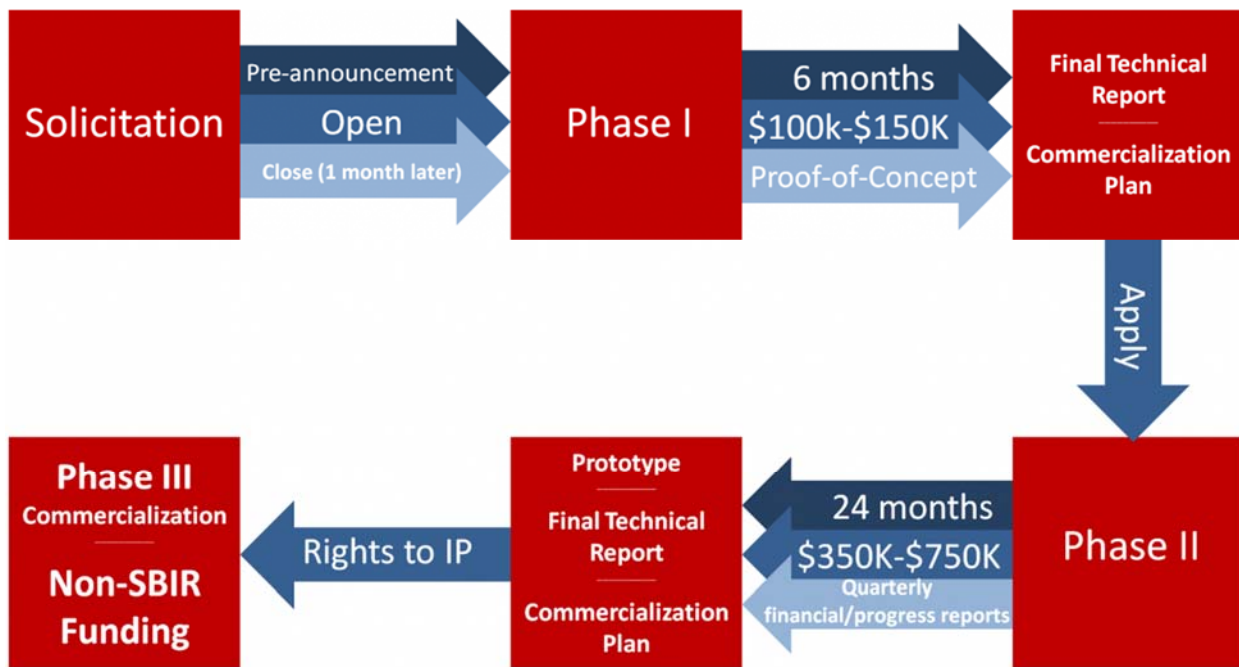
Payment schedules vary depending on the agency and if the award is in the form of a grant or a contract. Contract awards may allow the small business to negotiate payment schedules and define specific required deliverables. Below are examples of the payment schedules of awards from the NSF and the DoD.

Payments will be made by **NSF (Grants)** as follows: “2/3 of the total award will be made within two weeks after receipt of the NSF SBIR Award Request for Initial Payment Form, but not before

the award effective date, and the remainder upon receipt and acceptance by NSF of a satisfactory final report and financial certification (included on the SBIR Report Cover Page). The NSF SBIR Award Request for Initial Payment Form is available at <http://www.nsf.gov/eng/iip/sbir/forms.jsp>. This form should be submitted in accordance with instructions in the award notice.”

Payments will be made by **DoD (Contracts)** as follows: “FAR SubPart 32.111(a)(2) requires that the clause at FAR 52.232-2 be used in fixed-price research and development contracts. This clause clearly provides that the contractor should be paid promptly as portions of the required work are completed. In order to provide for payment for a portion of the work rendered, the work and price must be separately stated in the contract. For firm-fixed-price contracts, this could be accomplished by allowing for periodic payments as status reports are delivered and accepted. Under the firm-fixed-price, level-of-effort term contract, this could be accomplished by allowing for payment based on a composite rate for each hour expended.”

### Phases of Funding



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### SBIR/STTR Phase Funding

	Award Amount
<b>Phase I</b>	Up to \$150,000 (max* of \$225,000)
<b>Phase II</b>	Up to \$1,000,000 (max* of \$1,500,00)
<b>Phase III</b>	No specified amount

\*Any amount >\$150 K for Phase I and \$1 M for Phase II requires an intra-agency waiver to be granted.

See yearly average Phase I funding amounts by agency [above](#).

Phase III denotes when a SBIR/STTR Phase II or Phase I is offered additional money (not from their SBIR/STTR allocations) to continue, advance or conclude on work described in the Phase I or II award. Phase III is non-competitive and there is no size restriction for the business concern. Phase III funding can come from outside investors.

Also of note, agencies can offer less than \$150 K as a maximum for any particular award solicitation.

### **Subsequent Phase II award:**

- If you receive a Phase I award from one agency you can receive a Phase II from another agency if a written determination is made that the project topic is shared by both agencies
- If you receive a Phase I SBIR or STTR award, you can receive a Phase II award through SBIR or STTR regardless of the type of Phase I award
- The NIH, DoD and DoE can issue a Phase II award to a small business concern who was not provided an award under Phase I

### **Fast-Track Submission**

Fast-Track mechanism expedites the decision and award of SBIR and STTR Phase II funding for scientifically meritorious applications that have a high potential for commercialization. Fast-Track incorporates a submission and review process in which both Phase I and Phase II grant applications are submitted and reviewed together. The Phase I portion of a Fast-Track must specify clear, measurable goals (milestones) that should be achieved prior to initiating Phase II work. In addition, as is required for all Phase II proposals, the Phase II portion of the Fast-Track proposal must present a commercialization plan that addresses specific points.

It is important to note that the Fast-Track application will receive a single rating for the entire proposed project (Phase I & II).

Under the DoD Fast-Track policy, SBIR projects that attract matching funds (cash) from outside investors receive a significantly higher chance of award, as well as continuous funding between Phases I and II.

### **Direct-to-Phase-II Program**

For fiscal years 2012-2017, the NIH, DoD, and Department of Education may issue Phase II SBIR awards to firms to pursue Phase I solicitation topics without requiring the applicant to have received a Phase I award for related work.

### **Phase IIB (Post-Phase II Funding)**

Some agencies, such as the NIH, offer additional funding (up to \$1 million a year for three years) beyond Phase II to help progress technologies through the early FDA regulatory review processes. In most cases, the additional funding is offered as non-dilutive matching funds. For investors, this is a particularly attractive opportunity, for every dollar they invest, two dollars go into the company.

## Starting a Company

As mentioned previously, PIs that apply have to be employed by a qualified small business at the time of the award. If you cannot find a small business partner or would prefer, you can start a new company.

**Rutgers New Ventures strongly recommends that you consult with a qualified attorney and accountant concerning the founding of a new company and its legal and financial impacts (including taxes) it may have for you.** They can advise you on topics such as the type of company to form, the best state to found your company in and other important considerations. If needed, please feel free to contact [us](#) for a list of potential law firms and accounting firms that have worked with Rutgers startups in the past. To learn more about the startup process at Rutgers, please visit <http://orc.rutgers.edu/startups/process>.

Below are the basic steps required for a new company to apply for SBIR/STTR funding.

<b>1. Incorporate your company.</b> NJ Fee = \$125 w/ on-line Certificate Delaware Fee = \$225.00 w/Long Form Certificate	<a href="http://www.nj.gov/njbusiness/starting/">http://www.nj.gov/njbusiness/starting/</a> <a href="http://corp.delaware.gov/howtoform.shtml">http://corp.delaware.gov/howtoform.shtml</a>
<b>2. Obtain an employer identification number (EIN) which acts as a Tax ID number and is needed for (SAM)</b>	<a href="http://www.irs.gov/Businesses/Small-Businesses-&amp;Self-Employed/Apply-for-an-Employer-Identification-Number-(EIN)-Online">http://www.irs.gov/Businesses/Small-Businesses-&amp;Self-Employed/Apply-for-an-Employer-Identification-Number-(EIN)-Online</a>
<b>3. Obtain a Dun &amp; Bradstreet number (DUNS)</b>	<a href="http://fedgov.dnb.com/webform">http://fedgov.dnb.com/webform</a>
<b>4. System for Award Management (SAM) - Register in Central Contracting Registry (CCR) and obtain your Commercial and Government Entity (CAGE*) code and your Trading Partner Identification Number (TPIN)</b>	<a href="https://www.sam.gov/portal/SAM/##11">https://www.sam.gov/portal/SAM/##11</a> <i>*It can take weeks to obtain a CAGE number because of a required background investigation of yourself and your company</i>
<b>5. Register on the SBIR/STTR Company Registry (print &amp; keep the registry from)</b>	<a href="http://www.sbir.gov/registration">http://www.sbir.gov/registration</a>
<b>6. For NIH applications, eRA Commons account with proper PI designated</b>	<a href="https://era.nih.gov/">https://era.nih.gov/</a> <i>*It can take weeks to have an account approved for a new institution</i>

\*It can take weeks to obtain a CAGE number because of a required background investigation of yourself and your company. There may also be up to a 2-week delay to register a new eRA Commons account.

### Company checklist before applying:

- ✓ State Certificate of Incorporation
- ✓ A Federal EIN
- ✓ A DUNS number

- ✓ SAM (CAGE code & TPIN)
- ✓ SBIR/STTR Registry form and ID # (need to attach a copy to every solicitation)
- ✓ Specific to NIH, eRA Commons account for the company required to submit

## Rutgers Conflict of Interest and Commitment

Please carefully review Rutgers Conflict-of-Interest Policies [60.5.8](#) and [60.5.9](#):

- Conflicts of Interest – Faculty: Professional Activities Outside the University and Outside Employment for Academic Personnel <https://orra.rutgers.edu/coi>
- Faculty or Staff Involvement with Commercial Enterprise – Contracts with the University <https://uec.rutgers.edu/wp-content/uploads/CodeofEthics.pdf>

Under these policies, Rutgers faculty members have an obligation to inform the University of any potential conflicts through their department chairs or unit heads and to consult with them to determine whether a conflict of interest actually exists and, if so, what appropriate steps may be required to eliminate the conflict. In some cases (particularly with startup companies), a Rutgers Conflict of Interest Committee may review a matter. Please contact the [New Ventures](#) group for more information.

Important Resources:

- Rutgers Online Disclosure of Financial Conflict of Interest (FCOI) - <http://ecoi.rutgers.edu/>. Faculty and staff should **update their FCOI status immediately and each time it changes**.
- New Jersey Conflict of Interest Law - <https://www.state.nj.us/ethics/statutes/conflicts/>
- NIH Financial Conflict of Interest Tutorial - <http://grants.nih.gov/grants/policy/coi/tutorial2011/fcoi.htm>

## Working part-time during Phase I

It is a requirement for SBIR awards that the Principal Investigator (PI) be primarily ( $\geq 51\%$ ) employed by the small business. As such, it is preferred that the PI for the small business applicant not be a Rutgers faculty/employee. If not the case, the PI's Rutgers employment status will have to be re-designated as part-time when the award is granted. It may be possible to become a part-time Rutgers employee and maintain your health and other benefits. Work with your department chair, school dean and university human resources to determine the best course of action.

## Using Rutgers facilities and equipment

Pending any conflict of interest review, there are opportunities that would allow a SBIR/STTR awardees to subcontract work and use of equipment in a Rutgers research lab or center. These opportunities are structured as contract requests, which are reviewed and agreed to by Rutgers' Office of Corporate

Contracts. Their website and instructions for submitting a proposal can be found at:  
<http://ored.rutgers.edu/corporate-contracts>.

It is important to emphasize that no Rutgers resources should be used related to a SBIR/STTR award without an approved agreement in place. SBIR/STTR applications will require a statement of work from Rutgers if you plan to use the university as a subcontractor. This process will take time, so reach out to Corporate Contracts as soon as possible. A F&A rate change waiver is available on the Corporate Contracts' website but will need approval from the applicable school Dean and the Senior VP for Research and Economic Development (or appropriate designee).

## **Application Tips**

### **Communicating with the Agency**

We highly recommend that you reach out and stay in contact with agencies relevant to your research area and company's topic areas. Key points of contact are the SBIR/STTR program directors at the different agencies and agency branches.

When a solicitation is released:

- Get feedback on your idea (responsiveness, innovation)
- Familiarize the agency with your work and your company (build credibility)
- Have questions answered or clarifications made

Before a release/pre-release:

- Network at conferences and industry days
- Submit ideas and topics to agency
- Direct contact to familiarize them with your work and company

Be sure to include your phone number on any correspondence. Program managers typically prefer you to contact them via email, but they sometimes like to follow-up with you on the phone.

Agencies such as the NSF, recommend that you send them a two-page executive summary when reaching out to program directors. Make sure to include the word 'Confidential' on every page's header/footer.

Key aspects to include in the executive summary:

- Company and team - brief descriptions
- Market opportunity, value proposition and potential customers
- An enabling overview of the technology/innovation
- The competition (businesses and products)
- Research outline

### **7%-11% Profit/Fee Allowance**

All agencies allow an awarded company to charge a fee (profit) in their cost proposal in addition to indirect costs (see below). The maximum allowed by most agencies is 7% of the total direct and indirect costs. The allowed amount is usually a point of negotiation between the government contracting officer



and the awardee. We recommend that you include the maximum allowed fee in all SBIR/STTR cost proposals.

In preparation for negotiating the profit/fee allowance, we suggest that you familiarize yourself with the Federal Acquisition Regulation [15.404-4](#) . For DoD applications please review Defense Federal Acquisition Regulation [215.404-4](#).

## Indirect Costs

Wikipedia – “Indirect costs are costs that are not directly accountable to a cost object (such as a particular project, facility, function or product). Indirect costs may be either fixed or variable. Indirect costs include administration, personnel and security costs”.

All businesses incur indirect costs. This fact is well known to SBIR/STTR government contracting officers and they allow businesses to recover some of these costs. It is very important that you include a well calculated indirect cost rate in your proposal. Rates that are too low can lead to the business running into cash flow issues. Rates that are unrealistic will be challenged. Some agencies have defined maximum rates that they will allow. You should familiarize yourself with these maximums and be able to justify in detail the associated costs related to your rate. Indirect costs can be applied to all direct costs incurred by the company for the funded project (including subcontracts to universities). When drafting a budget, it is good practice to start with the award amount, subtract the 7% fee, and then subtract your indirect costs. What is remaining is what will be available to complete the proposed project.

Maximum rate unless otherwise negotiated by agency:

- NIH “Phase I applicants who do not have a negotiated rate with a Federal agency should propose an estimated rate not to exceed **40%** of the total direct costs. If awarded at a rate of 40 percent or less, the rate used to charge actual F&A may not exceed the awarded rate. NIH will not negotiate F&A rates for Phase I awards.”
- NSF “It is recommended that small businesses without an established indirect cost rate keep their request for indirect costs and fringe benefits at or below the “safe rate” (i.e., total indirect costs plus fringe do not exceed **50%** of total direct salaries and wages).”

SBIR lesson on calculating the proper indirect cost rate for SBIR proposals -

<https://www.sbir.gov/tutorials/accounting-finance/tutorial-3>

## Subcontract Budget

As mentioned, Rutgers can be contracted and receive up to 60% of the funding from an STTR award. This is a direct cost to the company. Rutgers budget must include all applicable F&A rates set by the University.

## Common Proposal Criticisms

- Poorly written and presented
- PI lacks necessary technical expertise
- Insufficient literature review



- Insufficient technical information
- Cannot be completed in six months (Phase I)
- Doubtful economic prospects - Poor commercialization potential
- Failure to indicate where project would go in Phase II
- Inadequate bibliographical information
- Lacks letter(s) from potential industry partners attesting to their interest in the technology
- Research already done by others
- Too vague and unfocused
- Inadequate detail in experimental plan
- Too much research done at the university
- Failure to engage consultants to add expertise in area where PI is glaringly deficient
- Lack of letter(s) from consultants/Letter(s) of support for expertise in lacking areas

## General Proposal Evaluation Criteria

Phase I proposals are generally evaluated on the following three criteria:

1. Technical and scientific merit
2. Firm's/team's qualifications. It is important to have the strongest possible PI. Qualifications include not only the ability to perform the research and development but also the ability to commercialize the results.
3. Commercial potential / societal impact of the project and its key innovations

## Additional Funding Opportunities and Programs for Rutgers Faculty to Consider

### Rutgers NSF I-Corps Site program

<http://oed.rutgers.edu/content/rutgers-i-corps-site>

Rutgers I-Corps™ Site is funded by the National Science Foundation. The Site's goal is to nurture and support multiple, local teams to help transition their technology concepts into the marketplace. The Rutgers Site will provide advice, resources, networking opportunities, training and modest funding to assist teams with the commercialization process and/or into becoming applicants for the National I-Corps™ Team. It is a five week course that offers up to \$2,500 to each team for reimbursement of travel and costs associated with customer discovery interviews.

### Rutgers TechAdvance

<http://techadvance.rutgers.edu>

**TechAdvance** is an early-stage-technology fund that provides financial support and business expertise for Rutgers faculty and students to advance promising technologies toward commercialization. **Up to \$100K for a 12-month project.**

**TechXpress** is a fast-track program of TechAdvance created to support smaller projects – such as development of prototypes, materials and experiments that generate new information or data to move

Rutgers technologies closer to commercialization. For example, TechXpress funds may be used to create a prototype for a new device, purchase a compound for proof-of-concept studies, or fund a toxicology or efficacy experiment to increase the likelihood of patentability. **Up to \$10K for a 6-month project.**

### Phase I Ventures

[Phase I Ventures](#) (P1V) is a program that has been launched in 2015 by the [University City Science Center](#). The program seeks to enroll pre-company university technologies that have potential to attract SBIR/STTR like R&D funding. Once a technology and its PI are admitted into the P1V program, they are matched with a business founder who has industry and startup experience. The team is then provided with up to \$25,000 in cash and in-kind services. Those services include the formation of a new Delaware corporation, as well as access to consultants and professional grant writers. The team will then put together a very competitive SBIR/STTR application and apply. If successfully funded, P1V can provide office and lab space and contribute up to \$450,000 of direct financing and help you obtain public and private funding. The direct financing is in the form of a dollar-to-dollar match of awarded SBIR/STTR funds.

### Other Opportunities

Opportunity	Website
NSF I-Corps	<a href="https://www.nsf.gov/news/special_reports/i-corps/">https://www.nsf.gov/news/special_reports/i-corps/</a> (increases the success of receiving a SBIR Phase I application by up to 60%)
NIH I-Corps	<a href="http://grants.nih.gov/grants/guide/pa-files/PAR-14-261.htm">http://grants.nih.gov/grants/guide/pa-files/PAR-14-261.htm</a>
NSF PFI:AIR-TT	<a href="https://www.nsf.gov/eng/iip/pfi/air-tt.jsp">https://www.nsf.gov/eng/iip/pfi/air-tt.jsp</a>
QED Proof-of-Concept Program	<a href="https://www.sciencecenter.org/programs/qed">https://www.sciencecenter.org/programs/qed</a>
Foundation Ventures Capital Group	<a href="http://www.foundationventure.com/">http://www.foundationventure.com/</a> (Contact Rutgers NVE to provide you an introduction)
New Jersey Edison Innovation R&D Fund (currently not operating)	<a href="http://www.state.nj.us/scitech/entassist/edison/">http://www.state.nj.us/scitech/entassist/edison/</a>

This guide has been authored by Christopher R. Pflaum as a Rutgers employee. If you have any questions about the content of this guide, please feel free to contact him and ask. His email is [cpflaum@rutgers.edu](mailto:cpflaum@rutgers.edu) and his desk phone is 848-932-4487.