

# **Grant Writing for Technology Startups**

**Kafryn W. Lieder, PhD**  
**The Well-Tempered Word, LLC**  
**November 4, 2011**

# Overview

- **What are SBIR/STTR?**
- Registrations
- Plan your proposal
- Write your proposal
- The application package – the rest of the submission
- Post-submission tasks

# What are SBIR and STTR?

- Federal grant and contract programs:
  - >\$2.5B annually
    - Small Business **Innovation** Research (2.5%)
    - Small Business **Technology Transfer** Research (0.3%)
- Focus on R&D with commercial potential
- [www.sbir.gov](http://www.sbir.gov)

# SBIR vs. STTR

## SBIR

Research partner  
*permitted* (Ph. I  
33%; Ph. II 50%)

PI from small biz  
(*>50%* employment)

## STTR

Research partner  
*required* (40% small biz;  
30% non-profit res.  
partner)

PI from small biz *or*  
research partner

IP agreement

# Who qualifies?

- US for-profit small **business**
  - $\leq 500$  employees
  - If joint venture,  $\leq 49\%$  participation by business entities
  - $\geq 51\%$  owned/controlled by individuals (US citizens or permanent resident aliens)
- Dedicated space (or lease)

# Value of SBIR/STTR funding

- Non-dilutive investment; equity increases
- Vetted by federal agency
- Increases business credibility, visibility, recognition
- Supports R&D for new products; stimulates economy
- Helps bootstrap start-up company → attract investors
- Encourages academic-industrial partnerships
- ***Funding is not “free” – pay attention to requirements!***

# Participating agencies

**DoD SBIR/STTR**

**NIH SBIR/STTR**

**NASA SBIR/STTR**

**DOE SBIR/STTR**

**NSF SBIR/STTR**

**DHS SBIR**

**USDA SBIR**

**DOC SBIR**

**DoEd SBIR**

**EPA SBIR**

**DOT SBIR**

# SBIR/STTR: Three phases

## Phase I (\$80–150k) – *focus of talk*

- Proof of principle or feasibility study
- 6–24 months
- *4–12 months funding gap*

## Phase II (\$750k–1M+) )

- Validation study
- 2–3 years
- *Funding gap*

## Phase III

- Commercialization
- No SBIR/STTR funds may be used
- *FDA approval → years*

# Overview

- What are SBIR/STTR?
- **Registrations**
- Plan your proposal
- Write your proposal
- The application package – the rest of the submission
- Post-submission tasks

# Registrations

- Set up company (EIN)
- DUNS (Data Universal Numbering System) number
  - “Universal identifier for applicants for Federal grants or cooperative agreements”
- Central Contractor Registry (CCR)
- Grants.gov
- eRA Commons; FastLane; DoD
- ***Help desks***

# Registrations – Timing

- Set up company: days to months
- DUNS number:  $\leq 1$  week
- CCR:  $\leq 1$  week
- Grants.gov:  $< 1$  week
- FastLane:  $< 1$  week
- eRA Commons:  $\leq 4$  weeks
- DoD:  $\leq 1$  week
- ***Track information!***

# Overview

- What are SBIR/STTR?
- Registrations
- **Plan your proposal**
- Write your proposal
- The application package – the rest of the submission
- Post-submission tasks

# Pre-proposal process

***The 8 Ps:** Prior planning and proper preparation and processes prevent poor performance.*

- **Phase I proposals: 200–450 h**
- Unmet need; fits your technology
- Commercializable &
- Patentable (IP protected)
- Business model
- ***Then, find funding!***

# Find funding

- Not quick, simple, or trivial
- Find opportunity that fits your business
- Useful websites
  - [www.sbir.gov](http://www.sbir.gov)
  - [www.zyn.com/sbir](http://www.zyn.com/sbir)
  - [www.grants.gov](http://www.grants.gov)
  - [www.fbo.gov](http://www.fbo.gov) (Federal business opportunities)
- ***Subscribe to notices!***

# More about funding

- ***Network!***
- Visit agency websites
  - Agency's mission
  - Identify end-user(s)
  - Understand requirements, if funded (e.g., DCAA (Defense Contract Audit Agency)-compliant accounting system)
- Attend government-hosted industry days
- Attend conferences & outreach events
- Attend national or single-agency SBIR/STTR conferences

# Preliminary steps

*You might not need a business plan, but you **do** need a plan for your business.*

- Find and read solicitation ***carefully***
  - Inter-agency consistency non-existent
  - Note timing for contacting Program Officer
  - Note (and abide by) requirements
  - Note (and abide by) deadlines

# Contact program officer

- Availability varies by agency
- Contact program officer *early*
  - Attend national or regional SBIR/STTR conferences and workshops
- Assemble information on
  - Your company
  - Overall project
  - Specific aims/Technical objectives
  - Team (internal and external)
  - Phase II and commercialization

# Overview

- What are SBIR/STTR?
- Registrations
- Plan your proposal
- **Write your proposal**
- The application package – the rest of the submission
- Post-submission tasks

# Write your proposal

- ***More time than expected!***
- Focused proposal (especially Ph. I)
- Confirm team members and consultants
- Assign tasks
- Literature search (bibliography)
- Graphics/Data
- Market research/Competitive landscape
- Experimental design
- ***Think ahead to Phases II and III***

# Proposal writing tips

- *Order of writing ≠ order of sections*
- Detailed, concrete milestones
  - achievable *and* innovative
- Well-developed/thought-out work plan
  - not just “what,” but “how”)
- Preliminary results/data
  - establish credibility/knowledge
- Be critical of technology
  - think like competitors & customers
- Mark proprietary language

# General writing tips

- Include solicitation metrics in outline
  - Does draft meet requirements?
- *Scientific American* style
- Summarize key points
- Use subheadings
- Break up text with graphics and tables
- Use color (when permitted)
- Avoid calculus and jargon

# Common-sense tips

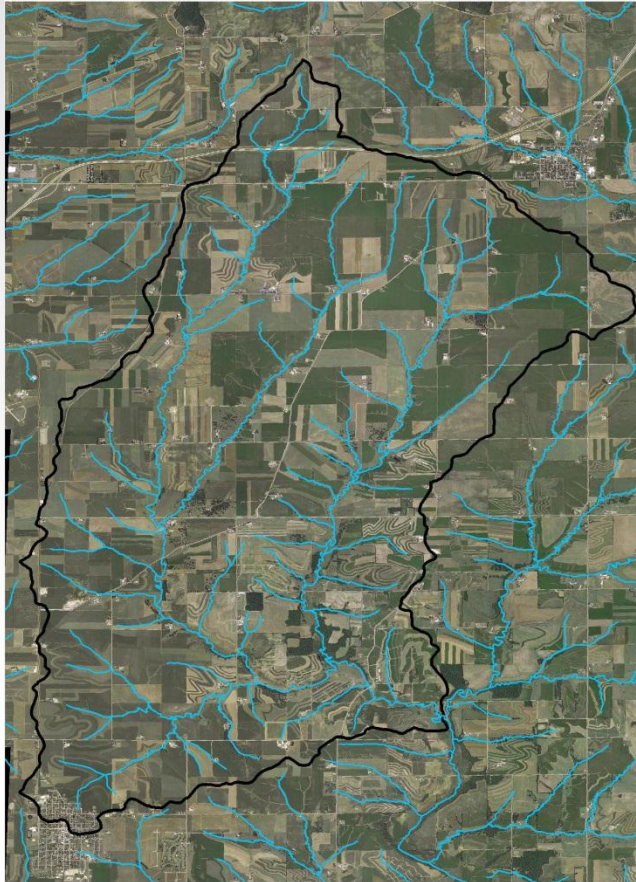
- Spell check
- Define acronyms when first used (repeat, if appropriate)
- Note and abide by formatting guidelines (page limits, font size, etc.)
- Have ***at least*** one outsider read your proposal
  - well in advance
  - often, eye-opening reality check

# Graphics and design *do matter*

- Use wisely
- Complement, strengthen text
- White space
- Clear labels
- Clear captions



# Graphics and design *do* *matter*



# Presentation *does* matter

## Specific Aims

Ciisto moditi doluptatio vit eum quam nonescit duscus di coreptae. Ed moluptatior simolor estium des est ipsuntibeaH serum estionet aut alibus, cum laut que prest, ad qui cones autatur, officil im expellestis que dolorrorro cus, quam voluptas aut et et liquatur sapiti, perumquam esequae eossi con nihilibus sumquaspera il inciatur. Fugias volupti onsequis eos ant volorenecat delende rehenecte cum quantis et officimus non por sit harumet. Otam volut ut laborestiu ma corero berum. ui ulluptiati labore ped quasinc illaccae. Menessitat hit andae percienim velest aute liciam sincid maio beaqui aperspe enis voloresti cus, none pelectem.

Ad qui dustion nobiti rem non plaborrum a dus et odionsequis quis molutame nonsequ asimenim quaspel luptas moluptam faceature poritae porit omnihicid quis siti ditio blam facepra tatiatur acea dollace rchitat volut derovid ernatem sinciditati ad mi, sus di ne ad ex eum evenduci digeniendus et, susande ligendigent adiaeru mquossi ncimet aut vit mi, conetur.

We propose the following specific aims for this Phase I study:

Specific Aim 1: Nostio. Et autasincte nullabor rehenia dolor reariae venis quo corro occus doluptate nam alitate ndelestem sum aut omnistet fugita ditistius. Essimini volupti denihiligent dolupta turissedi ilit dolorem quam cullatem repudicimpos porem ut apistrum nobita voloremquos sit minvendis di culloriatum rehenecte cum quantis et officimus non por sit harumet volupta tectis. Milestone: Modigni vitincipsus aditaqui omnissitaqui qui am, si dolorerum audis eium quo voluptam isitat vitio. Luptati officitis quo ipistem quodistempor a nis eum quatiunt quaerum ut volor aut et la quo bea velibus aci alitat.

Specific Aim 2: Nostio. Et autasincte nullabor rehenia dolor reariae venis quo corro occus doluptate nam alitate ndelestem sum aut omnistet fugita ditistius. Essimini volupti denihiligent dolupta turissedi ilit dolorem quam cullatem repudicimpos porem ut apistrum nobita voloremquos sit minvendis di culloriatum rehenecte cum quantis et officimus non por sit harumet volupta tectis. Milestone: Modigni vitincipsus aditaqui omnissitaqui qui am, si dolorerum audis eium quo voluptam isitat vitio. Luptati officitis quo ipistem quodistempor a nis eum quatiunt quaerum ut volor aut et la quo bea velibus aci alitat.

# Presentation *truly* matters

The entire Research Plan contains proprietary/privileged information that [name of company] requests not be released to persons outside the Government, except for purposes of review and evaluation.

## 2. Specific Aims

---

Ciisto moditi doluptatio vit eum quam nonescit duscus di coreptae. Ed moluptatior simolor estium des est ip-suntibea serum estionet aut alibus, cum laut que prest, ad qui cones autatur, officil im expellestis que dolorror-ro cus, quam voluptas aut et et liquatur sapiti, perumquam esequae eossi con nihilibus sumquaspera il inciatur. Fugias volupti onsequis eos ant volorenecat delende rehenecte cum quuntis et officimus non por sit harumet. Otam volut ut laborestiu ma corero berum. ui ulluptiati blabore ped quasinc illaccae. Menessitat hit andae per-cienim velest aute liciam sincid maio beaqui aperspe enis voloresti cus, none pelectem.

Ad qui dustion nobiti rem non plaborrum a dus et odionsequis quis molutame nonsequ asimenim quaspel-luptas moluptam faceature poritae porit omnihicid quis siti ditio blam facepra tatiatur acea dollace rchitat volut derovid ernatem sinciditati ad mi, sus di ne ad ex eum eventudici digeniendus et, susande ligendigent adiaeru mquossi ncimet aut vit mi, conetur.

We propose the following specific aims for this Phase I study:

---

■ **Specific Aim 1:** Nostio. Et autasincte nullabor rehenia dolor reriae venis quo corro occus dolup-tate nam alitate ndelestem sum aut omnistet fugita ditistius. Essimini volupti denihiligent dolupta turissedi ilit dolorem quam cullatem repudicimpos porem ut apistrum nobita voloremquos sit minvendis di culloriatum rehenecte cum quuntis et officimus non por sit harumet volupta tectis. **Milestone: Modigni vitincipsus adita-qui omnissitaqui qui am, si dolorerum audis eium quo voluptam isitat vitio. Luptati officitis quo ipistem quodistempora nis eum quatiunt quaerum ut volor aut et la quo bea velibus aci alitat.**

---

● **Specific Aim 2:** Ulles maximagnis inullore nobit ratiae. Nequi bla doloruptae. Mo vent que volo-dus mi, venimusa corum aut veliqui bustiatur rero expla consequi sit as velenimus nisim. Auta pe sust-cii squidit, qui invelitam quatia qui autate experfe rnatquas maionsequae is denti odi nonsequibus, consed ulpa quis derum eosam. **Milestone: Asperia aligation cum aut intibearum ea que il et.**

---

# Overview

- What are SBIR/STTR?
- Registrations
- Plan your proposal
- Write your proposal
- **Application package**
- Post-submission tasks

# Application package

- Application package ( $\geq$ 40–60 hours)
  - ***Not trivial – don't wait to start!***
  - Agency-specific
  - Read instructions; make checklist
  - Many attachments (infrastructure documents) not time-sensitive
    - ***Assemble them ASAP***

# Application >> proposal

Final\_Ph\_II\_Application.pdf - Adobe Acrobat Pro

File Edit View Document Comments Forms Tools Advanced Window Help

Create Combine Collaborate Secure Sign Forms Multimedia Comment Sticky Note Text Edits Show

1 / 301 198%

OMB Number: 4040-0001  
Expiration Date: 06/30/2011

**APPLICATION FOR FEDERAL ASSISTANCE  
SF 424 (R&R)**

<b>1. * TYPE OF SUBMISSION</b>		<b>3. DATE RECEIVED BY STATE</b>	<b>State Application Identifier</b>
<input type="checkbox"/> Pre-application <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application		<input type="text"/>	<input type="text"/>
<b>2. DATE SUBMITTED</b>	<b>Applicant Identifier</b>	<b>4. a. Federal Identifier</b>	
<input type="text" value="04/05/2011"/>	<input type="text"/>	<input type="text"/>	
		<b>b. Agency Routing Identifier</b>	
		<input type="text"/>	

- NIH Ph. II
  - Proposal – 13 pages
  - Application – **301 pages**

# External documents

- ***Request these promptly!***
- Letters of support for technology
- Biosketches, letters of support
  - Consultants
  - Co-PIs
- Consortium arrangements
  - Letter of intent
  - Subaward budget and justification
  - Facilities and equipment

# Grants.gov submissions

- Some requirements
  - Zip+4 for each project site
  - DUNS number – project sites and sub-awardees
  - Congressional district number – company and project sites

# Overview

- What are SBIR/STTR?
- Registrations
- Plan your proposal
- Write your proposal
- Application package
- **Post-submission tasks**

# Post-submission tasks

- Track progress (if possible)
  - Supplemental materials
- Be prepared:  $\leq 10\text{--}15\%$  funded

# Not funded: Resubmit?

- Read debriefing/summary statement/panel review carefully
  - Reflect
  - Briefly summarize issues
- Contact program officer
- ***Substantially*** revise and resubmit

# Funded – Next steps

## *Business risk management strategies*

- Intellectual property (IP)
- Patents, trademarks, copyrights (PTO)
- Quality management system (QA/QC)
- Regulatory affairs
  - FDA (medical)
  - OSHA (safety)
  - EPA (chemical-intensive)
  - USDA (agriculture)

# Funded – More steps

- Manufacturing and distribution
- Human resources (HR)
- Information technology (IT)
- Reporting requirements
- Financial (bookkeeping, accounting, letter of credit)
  - ***Misuse of Federal funds is a felony***

# Conclusion

- >\$2B/year for SBIR/STTR
- Unmet need fits your technology
- IP covered
- Business started
- Strong team
- Funding sources found
- Registered
- Excellent proposals
- ***Adhere to post-award rules***

# Post-conference information

- Tip sheet for registrations
- Company data sheet (track registrations)
- Information about NIH institutes, centers, study sections

**Kafryn W. Lieder, PhD**

[kafrynw@gmail.com](mailto:kafrynw@gmail.com)

[Kafryn.lieder@wtword.com](mailto:Kafryn.lieder@wtword.com)

[www.wtword.com](http://www.wtword.com)

**608.513.6907**