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Experts

Michael Tunick
Drexel University

Brian Guthrie
Cargill

Co-produced with the ACS Division of Agricultural & Food Chemistry
This ACS Webinar is co-produced with the ACS Graduate & Postdoctoral Scholars Office.

Startups 101: From Lab Scientist to Entrepreneur

Corrie Kuniyoshi
Senior Program Manager, Graduate & Postdoctoral Scholars Office, ACS

Naresh Sunkara
CEO, Nosocom Solutions Inc. and Special Advisor to the Vice Chancellor, Research for Postdoc Affairs, University of California, Berkeley

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Overview

- What happens to your research after you leave the lab?
- Why startups? Technology translation
- When to start?
- Market evaluation
- Funding - SBIR/STTR, angel investors
- Incubators
- Crucial Conversations
- Questions

Audience Survey Question

What stage are you currently in concerning your start-up idea?

- I am interested but have no ideas or plans yet
- I have an idea for a product or service for my start-up
- I have done market research on my product or service for my start-up
- I am looking for funding for my product or service for my start-up
- Other

* If your answer is “Other” tell us more in the chat!
What happens to your research after you leave the lab?

- Good scientific Ideas
- Knowledge creation
- Proof of concept

Technology Translation at Universities

Startup as a Career Option

What is a “start-up”?

“A startup is a temporary organization used to search for a repeatable and scalable business model.”  
Steve Blank  https://steveblank.com

- Problem → Idea → Startup
- You are already solving a problem!
- Is there a way you can build a product someone needs?
Why Scientists Make GREAT Entrepreneurs?

• Accustomed to resolving uncertainty
• Familiar with building and testing hypotheses
• Versatile, multi-talented
• Resourceful, efficient, penny-wise
• Comfortable with temporary gigs
• Able to live on meager pay and long hours

But….They don’t like to sell!

Intellectual Property
**Audience Survey Question**

ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT

Who do you think should do the customer discovery research?

- A marketing or sales head should be hired
- A technologist or scientist
- This step is not necessary
- Other

*If your answer is “Other” tell us more in the chat!

---

**Idea Evaluation - Market Opportunity**

- Articulate and test your hypotheses
- Design experiments, start listening
- Done by founders

Who is going to pay $$$?

Customer Discovery -> Customer Validation -> Startup Building

STOP

NSF Innovation Corps (I-Corps™)
**Where do you find the $$?$**

**SBIR/STTR: 3-Phase Program**

https://sbir.nih.gov/about/three-phase-program

- **Phase I**
  - Feasibility Study
  - $80-225K and 6-month (SBIR)/12-month (STTR) Award

- **Phase II**
  - Expand on Phase I R&D
  - $750k - $1.5M and 2-year Award

- **Phase III**
  - Commercialization Stage
  - Use of non-SBIR/STTR Funds

“People forget this…”

“… Silicon Valley was actually built on federal funding. People have this notion that SV was built in garages. And it’s true, we have some high-profile cases, Jobs – basement, Google in dorm, these things are true – the real fact is that Silicon Valley is the story of federal funding.

Sherman Fairchild…. People forget that Lockheed was our largest employer. It was these activities that led to the commercial spin-offs – We need to jump *back to the future*.”

**Russell Hancock, Chief Executive, Joint Venture:** Silicon Valley Network
KQED Forum: State of the Silicon Valley Economy, 2/17/10
Startup Incubators and Accelerators

List of incubators and accelerators: [http://www.acceleratorinfo.com/see-all.html](http://www.acceleratorinfo.com/see-all.html)

Have you looked around your campus for information about startup incubators?

### Crucial Conversations

- With your PI, if you plan to get them involved
- With the university intellectual property office
- With your spouse :)  
- Friends and family
- Co-founders
- Don’t be afraid to discuss about your idea!
Audience Survey Question

How comfortable do you feel speaking to your PI about launching a startup based on the research you are doing?

- Very comfortable
- Somewhat comfortable
- Neither comfortable nor uncomfortable
- Somewhat uncomfortable
- Very uncomfortable

* If your answer is “Other” tell us more in the chat!

Business Model Canvas

https://www.strategyzer.com/canvas/business-model-canvas
Top 50 Undergraduate Programs

<table>
<thead>
<tr>
<th>Rank</th>
<th>University</th>
<th>Entrepreneurs</th>
<th>Companies</th>
<th>Capital Raised ($k)</th>
<th>FY 2018 Rank</th>
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<td>216,84</td>
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<td>404</td>
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</table>

Resources

1. SBIR/STTR Funding: [https://www.sbir.gov/tutorials/program-basics/tutorial-1](https://www.sbir.gov/tutorials/program-basics/tutorial-1)
2. University Gap Funding: [https://www.universitygapfunding.com](https://www.universitygapfunding.com)
3. Berkeley Postdoc Entrepreneurship Program: [https://bep.berkeley.edu](https://bep.berkeley.edu)
4. Stanford e-corner: [https://www.youtube.com/channel/UCctke8NfIO7i_9TTj_4w](https://www.youtube.com/channel/UCctke8NfIO7i_9TTj_4w)
5. Accelerators & Incubators: [http://www.acceleratorinfo.com/see-all.html](http://www.acceleratorinfo.com/see-all.html)
7. Angel Capital Groups: [https://www.angelcapitalassociation.org/directory/](https://www.angelcapitalassociation.org/directory/)
Acknowledgements

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