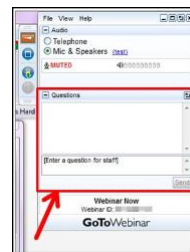




Have Questions?



Type them into questions box!

**“Why am I muted?”**

Don't worry. Everyone is muted except the presenter and host. Thank you and enjoy the show.

Contact ACS Webinars® at [acswebinars@acs.org](mailto:acswebinars@acs.org)

1



Join a global community of over 150,000 chemistry professionals

Find the many benefits of ACS membership!

<http://bit.ly/ACSmembership>

2



## Benefits of ACS Membership



### Chemical & Engineering News (C&EN)

The preeminent weekly digital and print news source.



### NEW! ACS SciFinder

ACS Members receive 25 complimentary SciFinder® research activities per year.



### NEW! ACS Career Navigator

Your source for leadership development, professional education, career services, and much more.

<http://bit.ly/ACSmembership>

3



@AmericanChemicalSociety



@AmerChemSociety



@AmerChemSociety



<https://www.linkedin.com/company/american-chemical-society>

Contact ACS Webinars® at [acswebinars@acs.org](mailto:acswebinars@acs.org)

4

How has ACS Webinars<sup>®</sup> benefited you?



“It was a great session about grant proposal writing tips. I have benefited by knowing more about what proposal reviewers require and by making me more aware of not making noticeable mistakes during the proposal submission.”

*Fan of the Week*

**Lee Soon Poh**  
Master of Science Student

<http://bit.ly/ProposalWritingVideo>

Be a featured fan on an upcoming webinar! Write to us @ [acswebinars@acs.org](mailto:acswebinars@acs.org)



# ACS Webinars<sup>®</sup>

CLICK • WATCH • LEARN • DISCUSS

**LIVE** | Thursdays at 2pm ET



**Learn from the best and brightest minds in chemistry!** Hundreds of webinars on diverse topics presented by experts in the chemical sciences and enterprise.

**Recordings** are an exclusive ACS member benefit and are made available to registrants via an email invitation once the recording has been edited and posted.

**Live Broadcasts** of ACS Webinars<sup>®</sup> continue to be available to the general public on Thursdays from 2-3pm ET!

[www.acs.org/acswebinars](http://www.acs.org/acswebinars)

6

## What is ACS on Campus?



ACS visits campuses across the world offering FREE seminars on how to be published, find a job, network and use essential tools like SciFinder. ACS on Campus presents seminars and workshops focused on how to:



- Publish in top journals
- Find a job
- Effectively use research tools like SciFinder® and ACS ChemWorx
- Communicate your science
- Write grant proposals
- Build industry partnerships
- Prepare for a changing employment landscape

<http://acsoncampus.acs.org>

7

## #HeroesofChemistry ACS Heroes of Chemistry Award



Inspiring Hero Stories



[View All Past Recipients >>](#)

*The ACS Heroes of Chemistry Award is the Annual award sponsored by the American Chemical Society that recognizes talented industrial chemical scientists whose work has led to the development of successful commercialized products ingrained with chemistry for the benefit of humankind.*

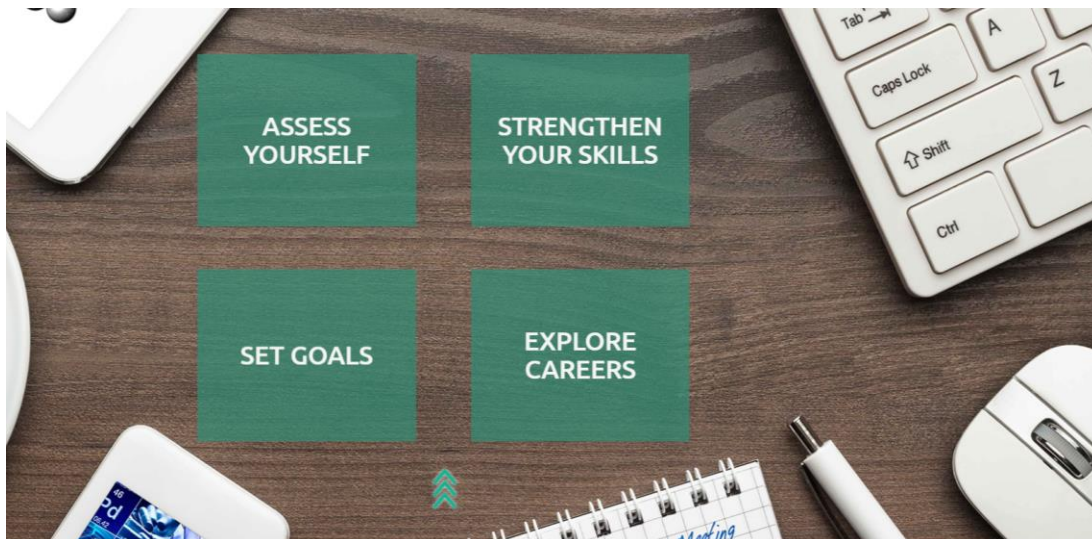
2018 Winners:



[www.acs.org/heroes](http://www.acs.org/heroes)

8

An individual development  
planning tool for you!



<https://chemidp.acs.org>

Next Week's ACS Webinar!

[www.acs.org/acswebinars](http://www.acs.org/acswebinars)



Experts



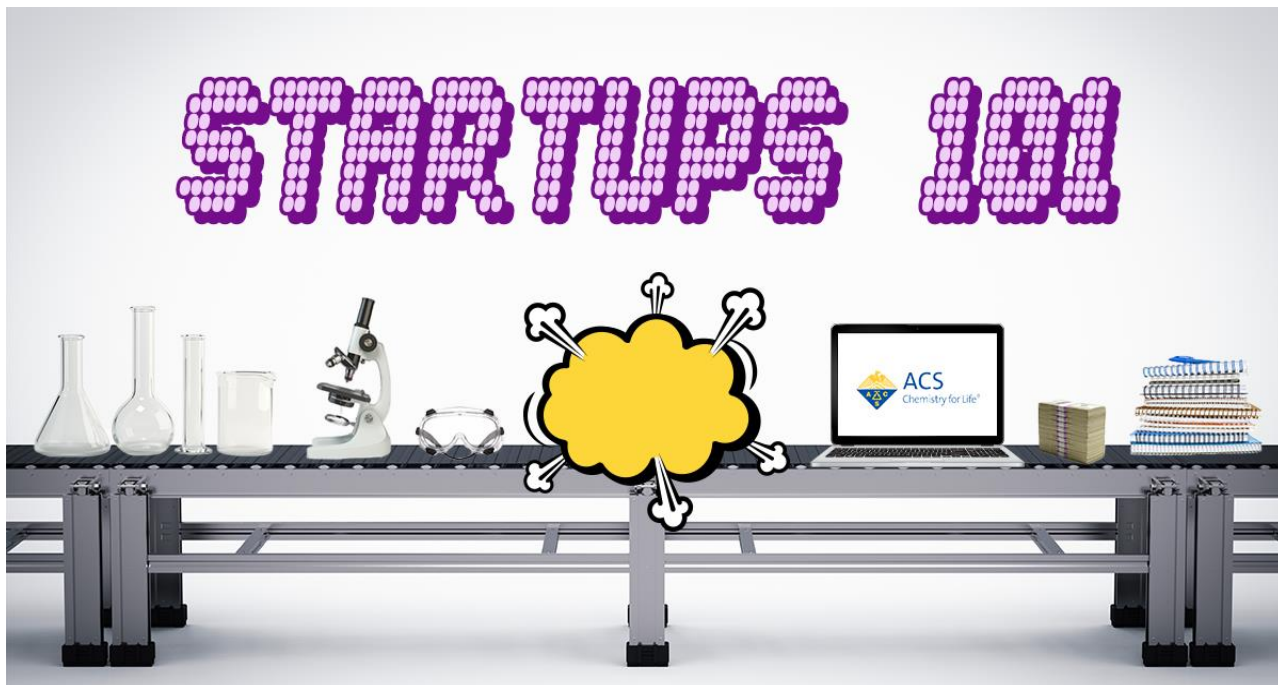
Michael Tunick  
Drexel University



Brian Guthrie  
Cargill

Co-produced with the ACS Division of Agricultural & Food Chemistry

10

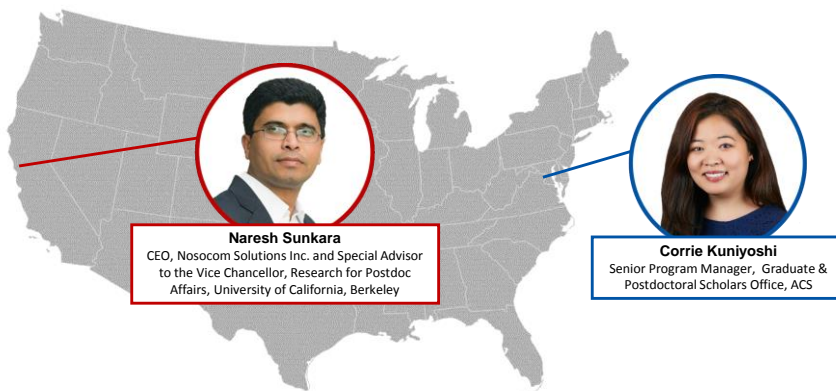


THIS ACS WEBINAR WILL BEGIN SHORTLY...

11



## Startups 101: From Lab Scientist to Entrepreneur



**Naresh Sunkara**

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

**Corrie Kuniyoshi**

Senior Program Manager, Graduate & Postdoctoral Scholars Office, ACS

*Slides available now! Recordings are an exclusive ACS member benefit.*

[www.acs.org/acswebinars](http://www.acs.org/acswebinars)

This ACS Webinar is co-produced with the ACS Graduate & Postdoctoral Scholars Office

12

# Overview

13

- 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



14

## Audience Survey Question

ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT



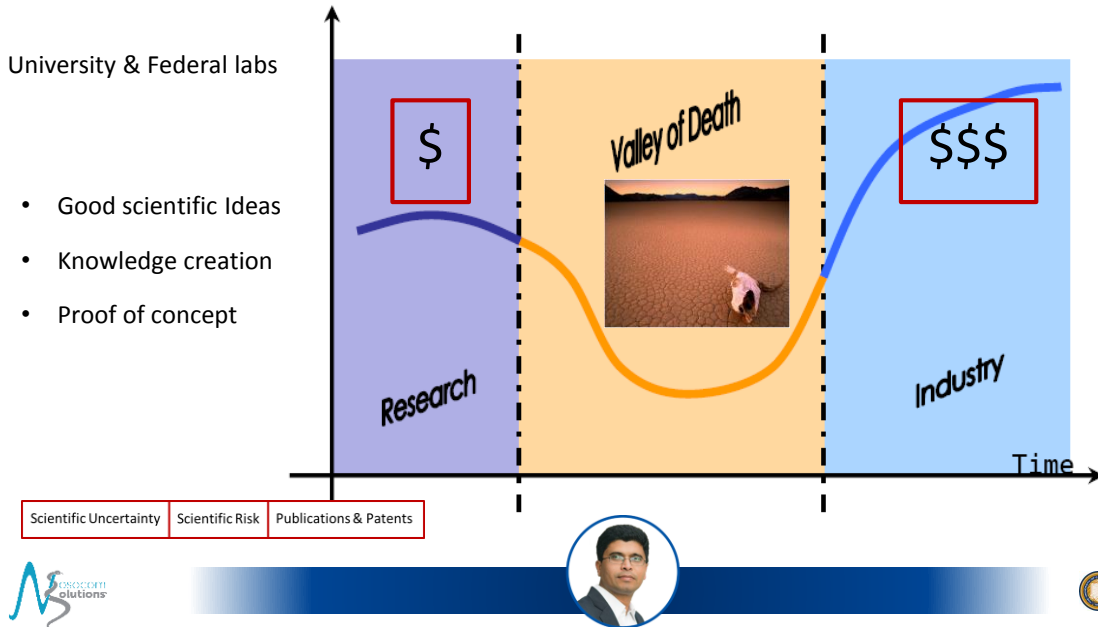
### What stage are you currently in concerning your start-up idea?

- 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?

15



## Technology Translation at Universities

16

*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?

17

- 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

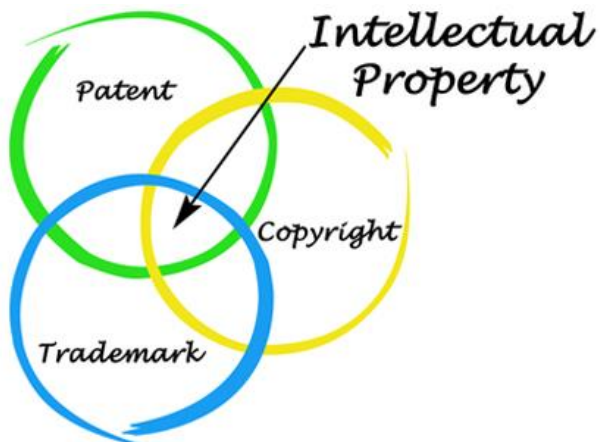


*But....They don't like to sell!*



## Intellectual Property

18



## Audience Survey Question

ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT



### Who do you think should do the customer discovery research?

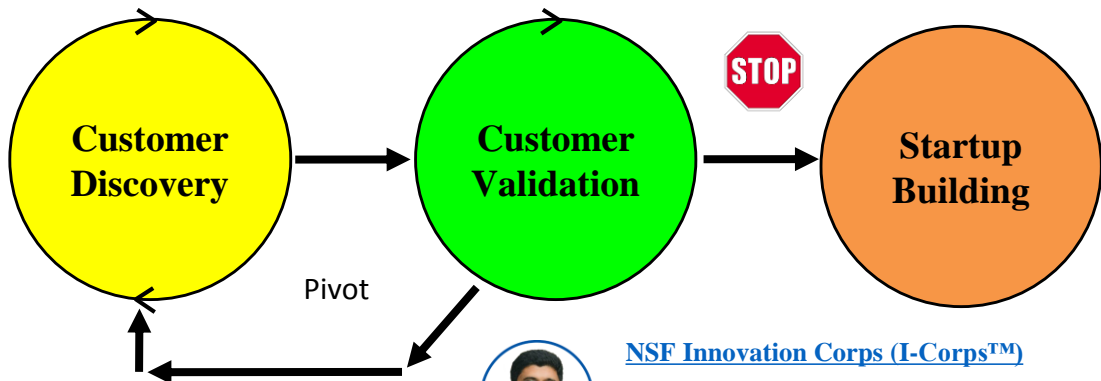
- A marketing or sales head should be hired
- A technologist or scientist
- This step is not necessary
- Other

*\* 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 \$\$\$?



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

23

List of incubators and accelerators: <http://www.acceleratorinfo.com/see-all.html>



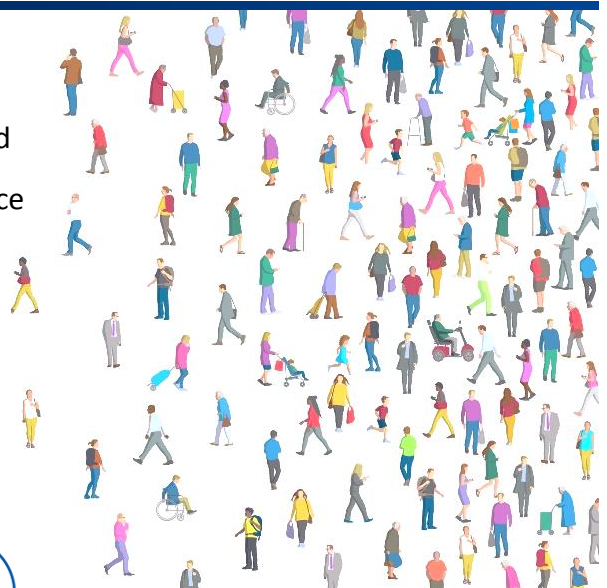
Have you looked around your campus for information about startup incubators?



## Crucial Conversations

24

- 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

ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT



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

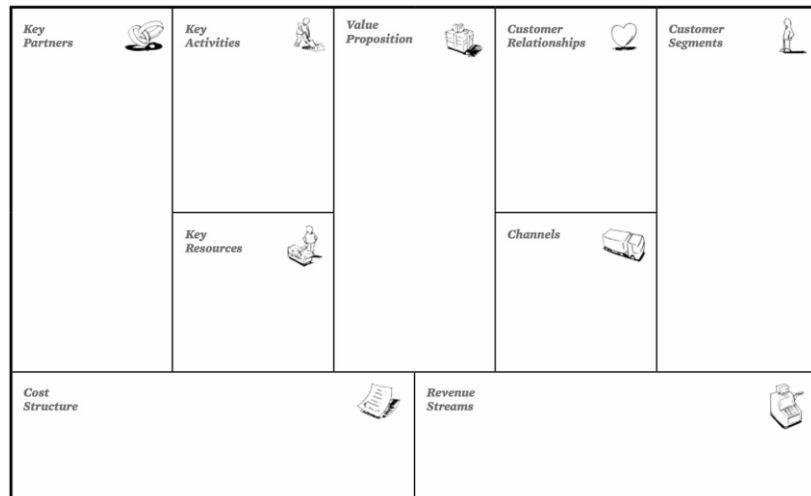
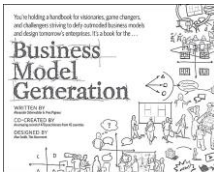
- Very comfortable
- Somewhat comfortable
- Neither comfortable nor uncomfortable
- Somewhat uncomfortable
- Very uncomfortable

*\* If your answer is "Other" tell us more in the chat!*

## Business Model Canvas













Alexander Osterwalder:  
Business Model Generation



<https://www.strategyzer.com/canvas/business-model-canvas>

## Top 50 Undergraduate Programs

Rank	University	Entrepreneurs	Companies	Capital raised (\$B)	Vs. 2017 rank
1	 Stanford University	1,178	1,015	\$28.84	NC
2	 University of California, Berkeley	1,137	1,012	\$20.78	NC
3	 Massachusetts Institute of Technology (MIT)	941	819	\$21.24	NC
4	 Harvard University	900	799	\$25.35	NC
5	 University of Pennsylvania	838	757	\$15.82	NC
6	 Cornell University	750	693	\$20.10	NC
7	 University of Michigan	712	638	\$12.07	NC
8	 Tel Aviv University	640	531	\$7.91	+1 ▲
9	 University of Texas	636	582	\$7.70	-1 ▼
10	 University of Illinois	526	484	\$9.94	NC

PitchBook



[https://files.pitchbook.com/website/files/pdf/PitchBook\\_Universities\\_2018\\_2019\\_Edition.pdf](https://files.pitchbook.com/website/files/pdf/PitchBook_Universities_2018_2019_Edition.pdf)

Source: PitchBook  
\*As of June 30, 2018



## Resources

1. **SBIR/STTR Funding:** <https://www.sbir.gov/tutorials/program-basics/tutorial-1>
2. **University Gap Funding:** <https://www.universitygapfunding.com>
3. **Berkeley Postdoc Entrepreneurship Program:** <https://bpep.berkeley.edu>
4. **Stanford e-corner:** [https://www.youtube.com/channel/UCctkeBntFION7Yl\\_9TTj\\_4w](https://www.youtube.com/channel/UCctkeBntFION7Yl_9TTj_4w)
5. **Accelerators & Incubators:** <http://www.acceleratorinfo.com/see-all.html>
6. **Seed Accelerator Rankings:** <http://seedrankings.com>
7. **Angel Capital Groups:** <https://www.angelcapitalassociation.org/directory/>
8. **How Angel Investment Works?** <https://www.forbes.com/sites/alejandrocremades/2018/09/25/how-angel-investors-and-angel-groups-work/#22f5fef476dc>

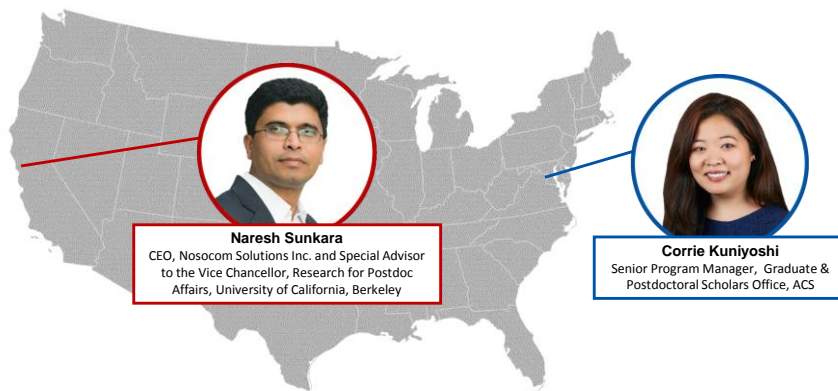


# Acknowledgements

29



## Startups 101: From Lab Scientist to Entrepreneur



**Naresh Sunkara**

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

**Corrie Kuniyoshi**

Senior Program Manager, Graduate & Postdoctoral Scholars Office, ACS

*Slides available now! Recordings are an exclusive ACS member benefit.*

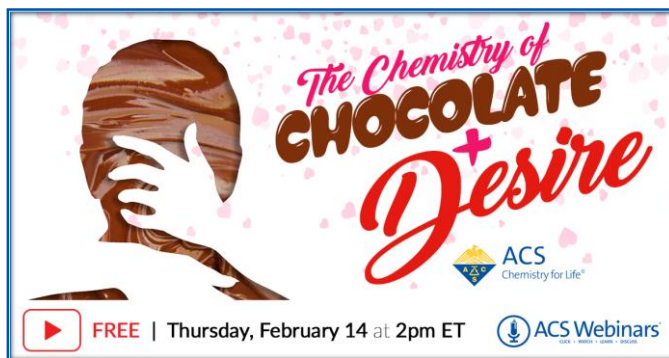
[www.acs.org/acswebinars](http://www.acs.org/acswebinars)

This ACS Webinar is co-produced with the ACS Graduate & Postdoctoral Scholars Office

30

## Next Week's ACS Webinar!

[www.acs.org/acswebinars](http://www.acs.org/acswebinars)



Experts



Michael Tunick  
Drexel University

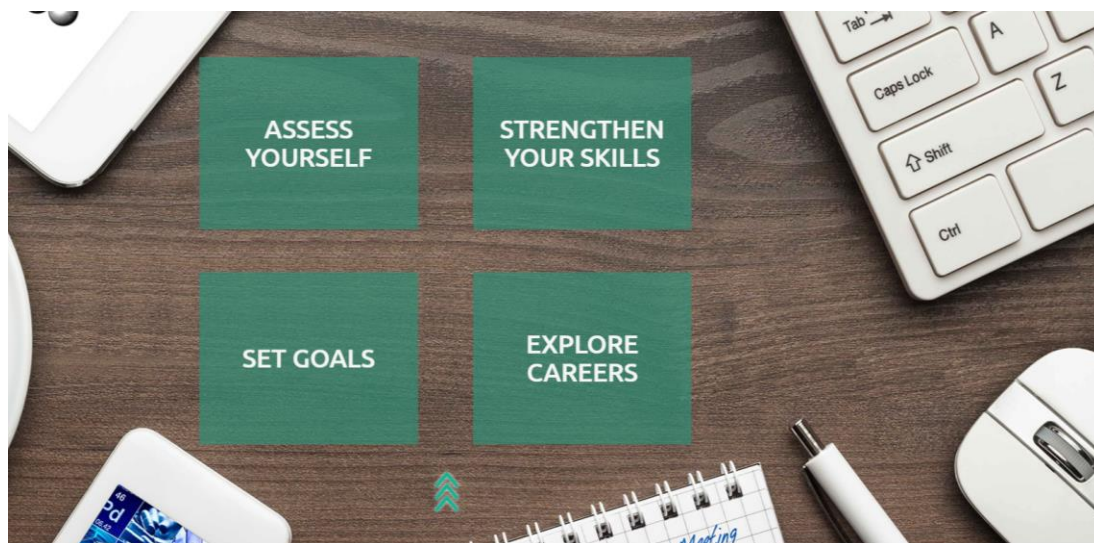


Brian Guthrie  
Cargill

Co-produced with the ACS Division of Agricultural & Food Chemistry

31

## An individual development planning tool for you!

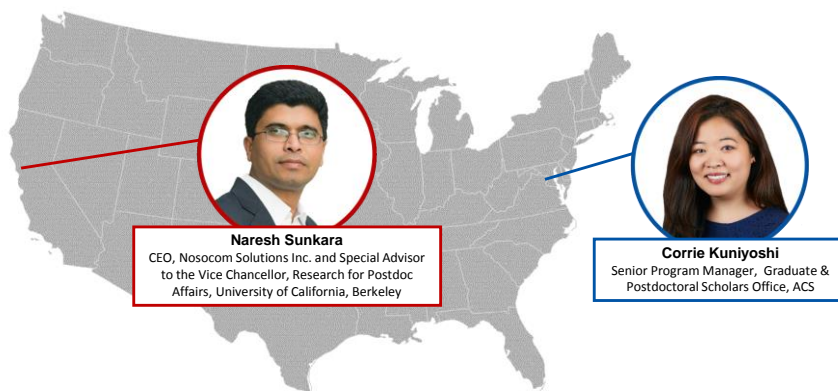


<https://chemidp.acs.org>

32



## Startups 101: From Lab Scientist to Entrepreneur



*Slides available now! Recordings are an exclusive ACS member benefit.*


[www.acs.org/acswebinars](http://www.acs.org/acswebinars)

This ACS Webinar is co-produced with the ACS Graduate & Postdoctoral Scholars Office

33


## How has ACS Webinars benefited you?

“It was a great session about grant proposal writing tips. I have benefited by knowing more about what proposal reviewers require and by making me more aware of not making noticeable mistakes during the proposal submission.”



<http://bit.ly/ProposalWritingVideo>

*Fan of the Week*  
**Lee Soon Poh**  
 Master of Science Student



Be a featured fan on an upcoming webinar! Write to us @ [acswebinars@acs.org](mailto:acswebinars@acs.org)

34



@AmericanChemicalSociety



@AmerChemSociety



@AmerChemSociety



<https://www.linkedin.com/company/american-chemical-society>

Contact ACS Webinars® at [acswebinars@acs.org](mailto:acswebinars@acs.org)

35



## Benefits of ACS Membership



### Chemical & Engineering News (C&EN)

The preeminent weekly digital and print news source.



### NEW! ACS SciFinder

ACS Members receive 25 complimentary SciFinder® research activities per year.



### NEW! ACS Career Navigator

Your source for leadership development, professional education, career services, and much more.

<http://bit.ly/ACSmembership>

36



ACS Webinars® does not endorse any products or services. The views expressed in this presentation are those of the presenter and do not necessarily reflect the views or policies of the American Chemical Society.

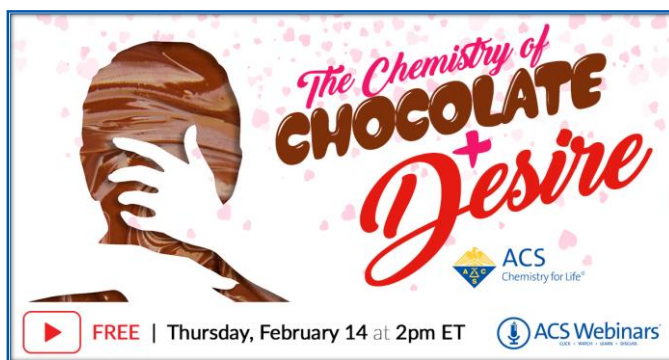


Contact ACS Webinars® at [acswebinars@acs.org](mailto:acswebinars@acs.org)

37

## Next Week's ACS Webinar!

[www.acs.org/acswwebinars](http://www.acs.org/acswwebinars)



Experts



Michael Tunick  
Drexel University



Brian Guthrie  
Cargill

Co-produced with the ACS Division of Agricultural & Food Chemistry

38