



Cyclotron Road

Activating tomorrow's technology leaders

MC O'Connor
program team

Berkeley Lab Community Advisory Group
June 10, 2019

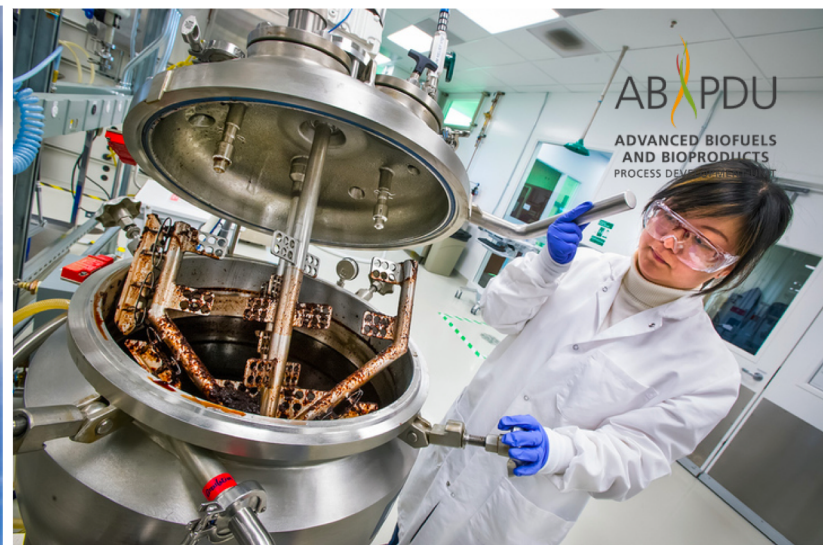
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We're five.

- Founded in 2014
- Fellowship for science-entrepreneurs
- 56 fellows supported thus far
- ~15 new fellows each yr
- More than \$18M direct funding
- More than \$100M follow-on funding



Embedded in the heart of Berkeley



cyclotronroad



BERKELEY LAB

ACTIVATION
ENERGY

The Opportunity



40,000

Science & Engineering PhDs



Trillions \$

in Lab Infrastructure



\$180B

in Research Expenditure

Our Solution



Talent

Science & Engineering PhDs



Resources

Berkeley Lab, Funding,
Network, Training, &
Mentorship



Time

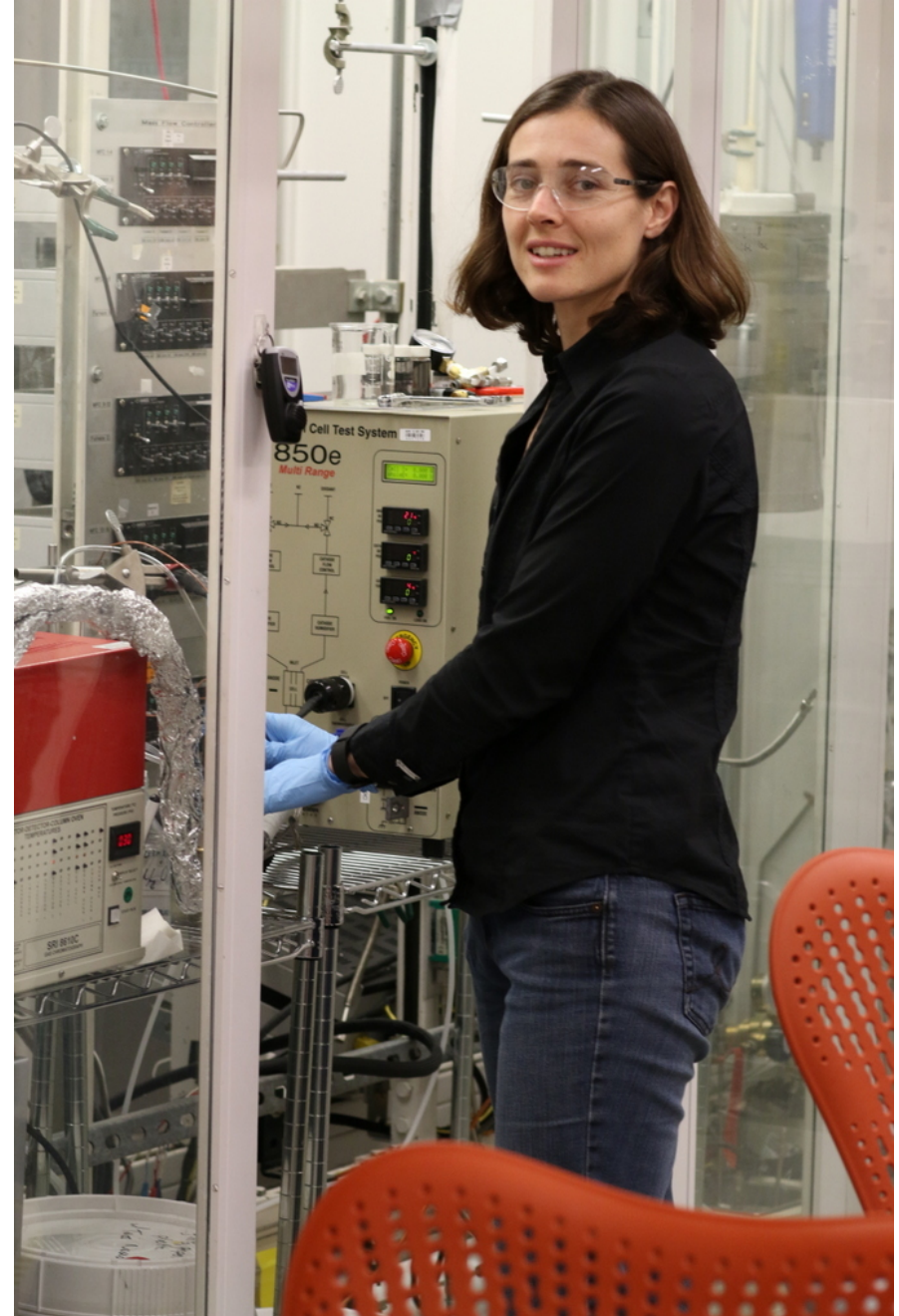
to find the right path

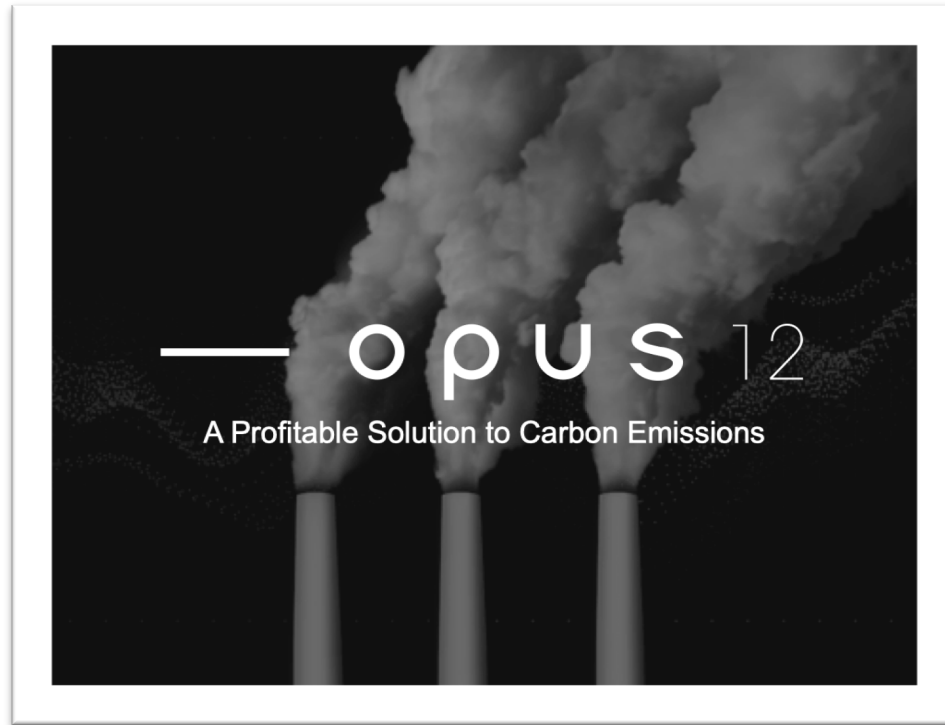
Cyclotron Road support

- Pilot cohort (2015): Berkeley Lab initial funder; 8 fellows
 - Joined by DOE's Advanced Manufacturing Office
- Added additional fellowship tracks, supported through CEC, DARPA
- Activation Energy: independent non-profit launched in 2016
 - Manages Cyclotron Road in partnership with Berkeley Lab

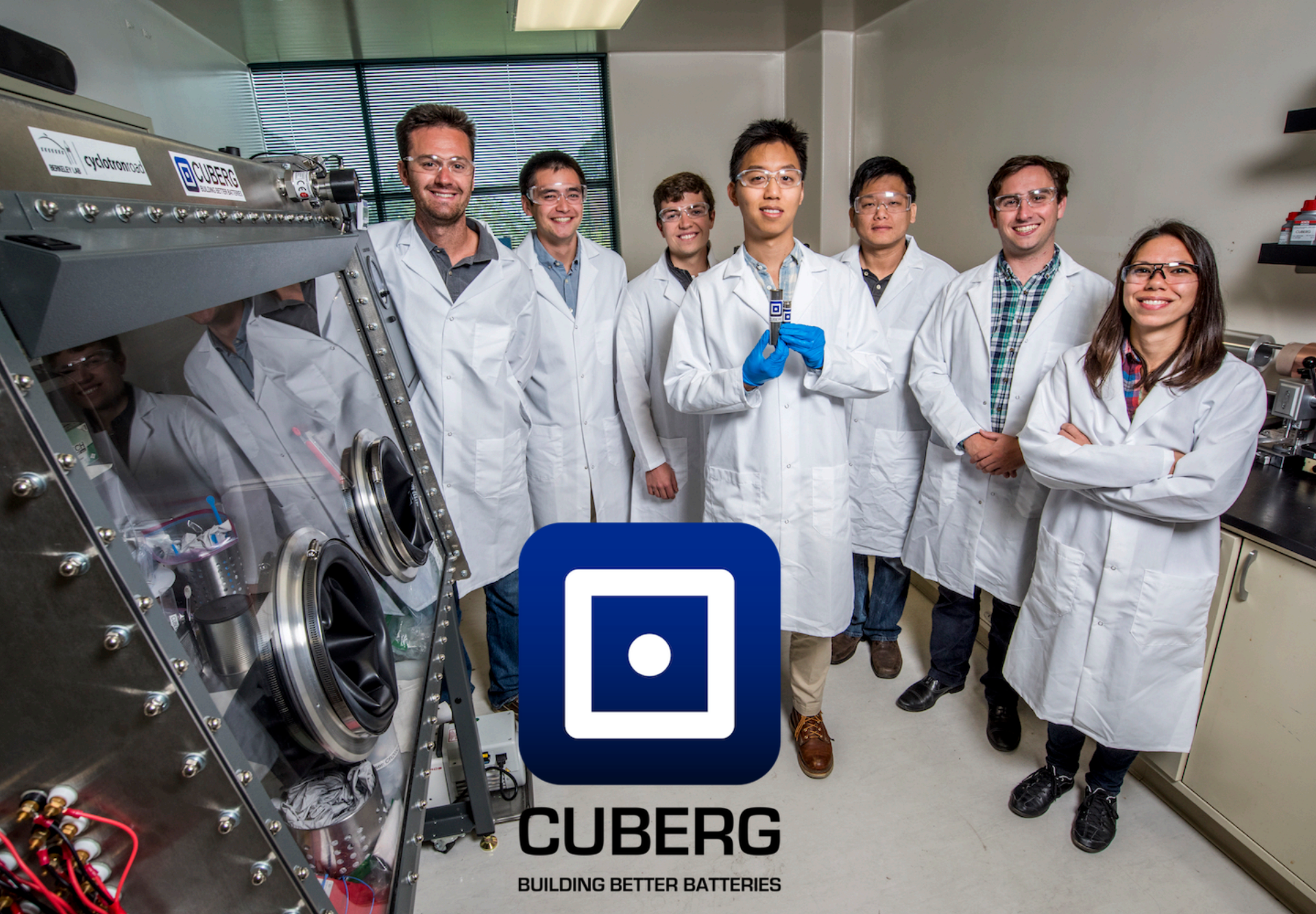
Cyclotron Road + UC Berkeley

- Shared Special User Facility for Innovation & Entrepreneurship (SSUFIE)
 - Cyclotron Road launched partnership in 2017
- Enables early-stage, UC-affiliated companies to conduct R&D in Cal labs
- Users: Tierra Biosciences (frm Synvitrobio); Visolis; Sonera Magnetics





Putting CO₂ Emissions to Work



CUBERG

BUILDING BETTER BATTERIES

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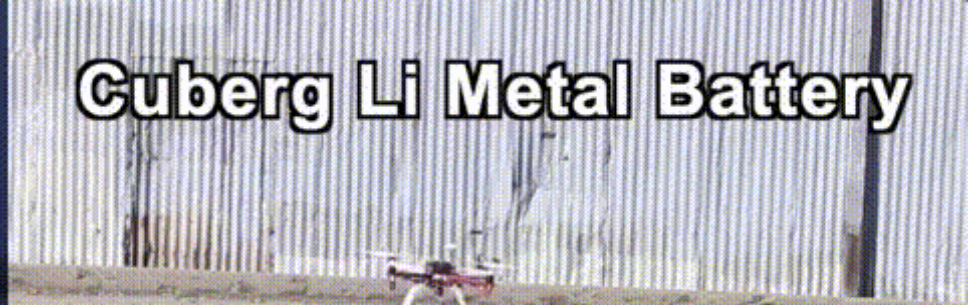
BERKELEY LAB

**ACTIVATION
ENERGY**

Li-ion Battery



Cuberg Li Metal Battery



- Cuberg's lithium-metal battery vs lithium-ion battery
Cuberg-powered drone flew 70 percent longer
- What could it do for commercial flight?

**POPULAR
MECHANICS**



TREAU

Taking aim at an industry that:

Hasn't innovated in 50 years

Currently accounts for 15% of
energy use in the United States

Seeing growing demand, which
will > triple by 2050



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ACTIVATION
ENERGY



CinderBio

Heat & acid stable enzymes

Widely applicable technology

- Non-toxic cleaners
- Bio-fuels

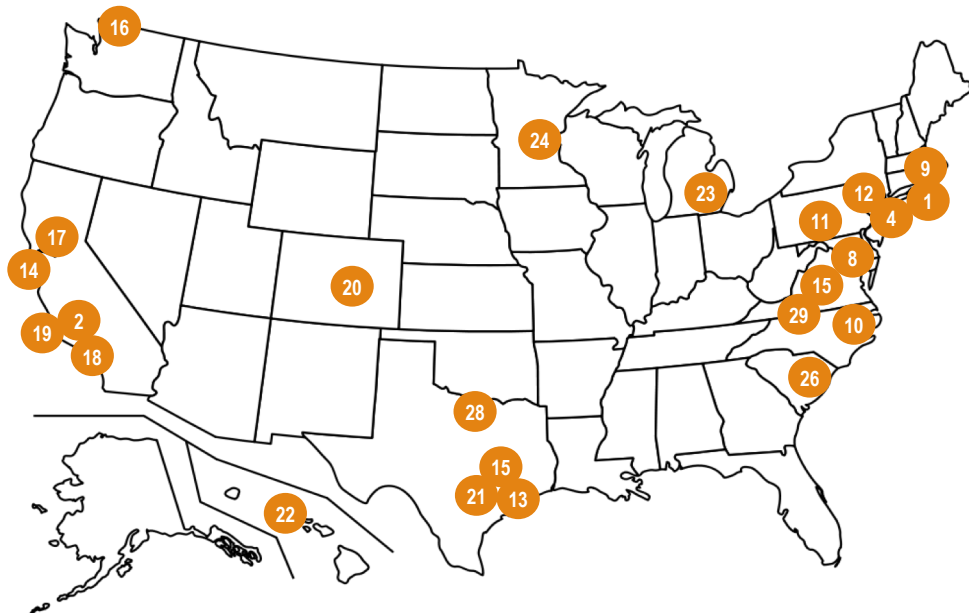
Deep Berkeley history

Community-building & advocacy



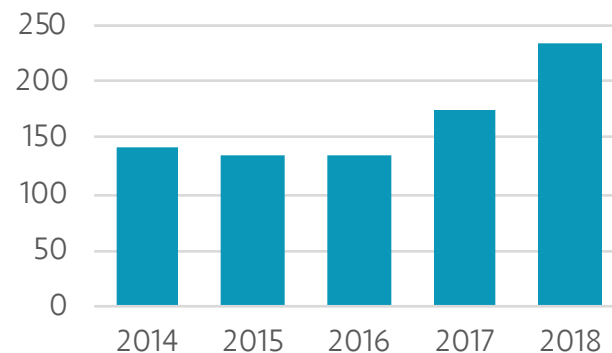
Impact

Validating an unmet need

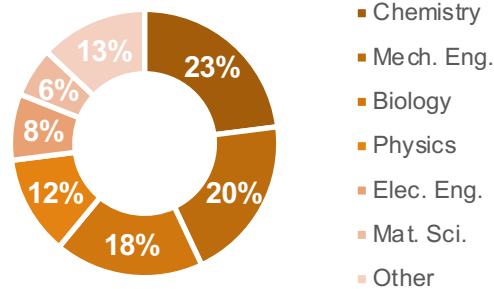


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|--|---|------------------------------------|
| 1. Boston University | 11. Penn State University | 21. University of Houston |
| 2. California Institute of Technology | 12. Princeton University | 22. University of Hawaii |
| 3. Colorado State University | 13. Rice University | 23. University of Michigan |
| 4. Columbia University | 14. Stanford University | 24. University of Minnesota |
| 5. Cornell University | 15. Texas A&M University | 25. University of New Mexico |
| 6. Duke University | 16. University of British Columbia | 26. University of South Carolina |
| 7. Georgia Institute of Technology | 17. University of California, Berkeley | 27. University of Texas, Austin |
| 8. Johns Hopkins University | 18. University of California, Irvine | 28. University of Texas, Arlington |
| 9. Massachusetts Institute of Technology | 19. University of California, Los Angeles | 29. University of Virginia |
| 10. North Carolina State University | 20. University of Colorado | |

Total Number of Applicants



Finalist Fields of Expertise



Impact


Innovating in major industrial sectors

 Chemicals & fuels

opus¹² CinderBio
mosaic VISOLIS
Treau MicroByre
SEPION TECHNOLOGIES TIERRA BIOSCIENCES

 Materials/Manufacturing

Feasible MALLINDA VISOLIS
polySpectra PHOTIA MicroByre
TIERRA BIOSCIENCES ActiveMEMS
LAMINERA

 Buildings

PHOTIA TREAU
ActiveMEMS helux
CYPRIS nelumbo

 Electric Power

SPARK THERMIONICS TAKACHSR
CalWave SEPION TECHNOLOGIES n o o n ENERGY
Feasible noble thermodynamics
ActiveMEMS FERVO ENERGY CUBERG

 Transportation

SPARK THERMIONICS CUBERG
Feasible SEPION TECHNOLOGIES
MALLINDA helux
dauntless.io n o o n ENERGY sonera

 Electronics/Computing

dauntless.io helux
sonera
LAMINERA
ASTRILEUX bleximo

Progress toward first product



Graduating Project Results

80%

Teams made a significant market or technology pivot during the program

100%

Teams built first prototype during the program, or secured funding to do so


10%

Shut down decision on project based on work in program

Cohort Five



Cohort Six



Applications accepted in October

Webinars: June 18; July 23; Aug. 20; Sept. 17

www.cyclotronroad.org/apply

Nominations, suggestions: mc@cyclotronroad.org 415-497-0568

Extra Slides

Collaboration & Discovery



Program team

Cyclotron Road Overview



Ilan Gur Founding Director
Former ARPA-E , entrepreneur, Mat Sci Ph.D.

Matt Price MD Industry & Investors
Fmr Nth Power & VP of Enlighted, Mat Sci BS / MBA

Brenna Teigler MD Operations
Fmr AAAS fellow, PhD, Biophysics, Harvard

Tom Boussie MD Technology
Fmr chemicals startup CEO, PhD from Berkeley

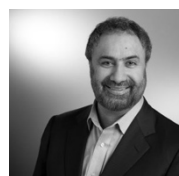
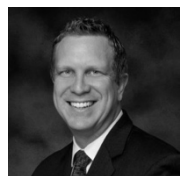
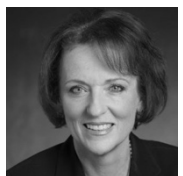
Sebastien Lounis MD Communications
Co-founder Cyclotron Road
PhD in Applied Sci/Tech & from UCB

Program Team: Beth Zotter, Melanie Miller, MC O'Connor, Nikhil Gargeya, Robert Ethier, Jeanne Dittman, Hannah Totte

Our leadership

Cyclotron Road Overview

Cyclotron Road Leadership Council



Arun Majumdar Stanford University
Cody Friesen Zero Mass Water
Eric Toone Duke University
Danielle Fong Lightsail Energy
Joel Moxley Foro Energy
Gia Schneider, Natel Energy
Gabriel Kra Prelude Ventures
Nancy Pfund DBL Partners
Carmichael Roberts North Bridge

Hemai Parthasarathy Breakout Labs
David Danielson Breakthrough
Cathy Zoi Odyssey Energy
Om Nalamasu Applied Materials
Nazeer Bhore ExxonMobil R&E
Brian Holloway Lockheed Martin
Liesl Schindler Royal Dutch Shell
Hal Harvey Energy Innovations
Jeffrey Carbeck Deloitte

Tom Baruch Baruch Future Ventures
John Wall Cummins (ret.)
Todd Johnson iPar
Paul Alivisatos UC Berkeley
Sarah Kearney PRIME Coalition
Barbara Burger Chevron
Dipender Saluja Capricorn

Impact

Funded by some of the leading investors in hard tech

Shell
Technology Ventures

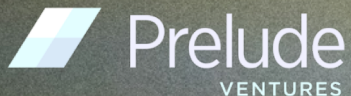


Data collective

SOCIALCAPITAL



Boeing HorizonX



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