CYCLOTRON ROAD
Executive Overview

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Why Cyclotron Road?

Today’s R&D institutions are not well-structured to support translation of hard science concepts into new products.

The biggest gap is support for research aimed at proving that new science can yield a viable first product.
Today, our highly optimized, venture-capital-driven innovation system is simply not structured to support complex, slower-growing concepts that could end up being hugely significant--the kind that might lead to disruptive solutions to existential challenges in sustainable energy, water and food security, and health.

- L. Rafael Reif
President, MIT
the United States needs a more systematic way to help its bottled-up new-science innovators deliver their ideas to the world.

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  President, MIT
What is Cyclotron Road?

1. **Spin-in** top entrepreneurial scientists from across the U.S.
2. **Support** with world class facilities, expertise, and mentorship
3. **Position** people and new technologies for market

Angel investors
Venture capital
Corporate partners
Program Details

INNOVATOR SUPPORT

Runway
• 2 year entrepreneurial research fellowship: living stipend, health insurance, and travel allowance

Labs
• Cross-cutting access as a Berkeley Lab affiliate and $100k toward initial Lab work. Innovators retain ownership of their IP.

Mentorship
• Intensive hard tech entrepreneurship mentorship, training, and connections from Cyclotron Road team and network

Support with world class facilities, experts, networks, and experience
PILOT RESULTS

NEW PRODUCTS  All six teams built a first prototype or secured the funding to do so.

NEW JOBS  Six companies supporting 30+ high tech manufacturing jobs

NEW FUNDING  $15M+ in new foundational research funding and private investment

NEW RESEARCH  4+ joint publications in progress, 5+ joint patent apps and inventions

NEW NETWORKS  300+ visitors to Cyclotron Road in 2016, ~45% industry and investors
COHORT I


**OPUS 12** electrochemical CO$_2$ to fuel

**CALWAVE** next generation wave power

**POLYSPECTRA** photo-activated polymers for 3-d printing

**SPARK** thermionic heat engine on a chip

**MOSAIC** materials for industrial gas separations

**VISOLIS** bio-based production of carbon-negative, high-performance polymers
Cyclotron Road Cohort II

(2016-2018)

**MALLINDA** fully reshapeable and recyclable polymers

**IRIS PV** ultra-high efficiency perovskite tandem solar cells

**SYNVITROBIO** cell-free platform for rapid bio-discovery

**FEASIBLE** diagnostic imaging technology for safer and cheaper batteries

**SEPION** nanoporous polymer separators for high energy batteries

**CUBERG** solid state materials for ultra-low cost, high energy density batteries
Cyclotron Road Cohort III

(2017-2019)

**DAUNTLESS**: Addressing complex physical systems with real-time machine learning control solutions.

**MARIGOLD**: Providing distributed base-load and renewable power based on advanced thermo-photovoltaics

**NELUMBO**: Rethinking cooling with the world’s most advanced meta-material coating for heat exchangers

**HELUX**: Shrinking the challenges associated with reliable and secure IoT control and communications

**TREAU**: Dropping AC energy and cost by 50% by developing new polymer based heat exchangers and near-isothermal compressors

**PHOTIA**: Manufacturing 3D nanostructures for the masses

**MICROBYRE**: Enabling cost-effective carbon negative materials by teaching old bacteria new tricks

**LAMINERA**: Conforming next generation electrical devices to meet society’s needs with synthetic metals

**ASTRILEUX**: Reducing the cost and energy intensity of EUV lithography by 20X