ENERGY I-CORPS
U.S. Department Of Energy

Laboratory Call for Energy I-Corps Teams

Fiscal Year 2017
Office of Energy Efficiency and Renewable Energy
Office of Strategic Programs
Technology-to-Market

Key Dates	
Laboratory Call Issue Date	May 2
POC Registration (See Section IV: Other Information)	3:00 p.m. (ET), May 8
Informational Webinar	3:00 p.m. (ET), May 11
Submission Deadline for Proposals	3:00 p.m. (ET), May 29
Expected Date for Team Selection Notifications	June 30

Summary information	
Means of Submission	Proposals must be submitted by email to EnergyICorps@NREL.gov. EERE will not review or consider proposals submitted through other means.
Total Amount to be Provided	Up to $1,050,000
Max Amount of Funding Per Team	Up to $75,000 per team, up to 14 teams per cohort
Period of Performance	Two months of training
Eligible Entity	U.S. Department of Energy national laboratories
Cost Share Requirement	Not required
Submission of Multiple Proposals	Laboratories may submit multiple proposals for each technology area.
Proposal Forms	A team application document is provided in this call (See Appendix A)
Questions	Questions about the program rules and proposal process may be directed to EnergyICorps@NREL.gov.

Section I: Description and Topic Areas

A. SUMMARY

"As a former national lab scientist who launched a startup with my lab technology, I could have benefitted so much from Energy I-Corps. The tools the program provides have such enormous practical application."

— Peter Fiske, Energy I-Corps Instructor

"[Energy I-Corps] showed me how I can maximize the benefit of my basic research at Argonne to create technology that has real-world commercial impacts for Americans. That's a very rewarding feeling."

— Dr. Ralph Muehleisen, Cohort 1 Alumni

In support of the Department of Energy's (DOE's) mission to ensure U.S. security through energy technology solutions, the Office of Energy Efficiency and Renewable Energy (EERE) is committed to maximizing the economic return of our federal investment in U.S. national labs. As a part of this effort, EERE's Technology-to-Market team within the Office of Strategic Programs administers a program called Energy I-Corps (formerly known as Lab-Corps). Energy I-Corps pairs teams of researchers with industry mentors for an intensive two-month training where the researchers define technology value propositions, conduct customer discovery interviews, and develop viable market pathways for their technologies. Researchers return to the lab with a framework for industry engagement to guide future research and inform a culture of market awareness within the labs. In this way, Energy I-Corps is ensuring that our investment in the national labs is maintaining and strengthening U.S. competitiveness long-term. Following on the success of five cohorts, we proudly announce this call for applications to be a part of the sixth cohort.

Energy I-Corps builds on the nationally recognized National Science Foundation (NSF) Innovation Corps (I-Corps™) model. Energy I-Corps has benefited laboratory scientists across all EERE technology offices and from the Office of Nuclear Energy (NE), the Office of Fossil Energy (FE), and the Office of Environmental Management (EM). **This Lab Call is open to Advanced Manufacturing, Building Energy Technologies, Electricity and Energy Reliability, Fuel Cell Technologies, Vehicle Technologies, NE, FE, and EM related researchers.** Please review section I-E, 'Scope of Activities and Technology Areas' for the specific technology-based areas to be considered for funding.

B. GOALS

Energy I-Corps will train lab-based teams utilizing a customized curriculum to advance the following objectives:

- Increase the number of national laboratory-developed technologies that are transferred into commercial development or industry agreements.

- Train national laboratory researchers to better understand potential pathways to market and private sector needs.
- Provide researchers with a framework for industry engagement to guide future research and inform a culture of market awareness within the labs, in pursuit of a more secure energy future.

C. BACKGROUND

The U.S. Department of Energy's (DOE's) national laboratories are home to some of the world's most advanced technologies, facilities, and scientists. The labs have positioned the United States as a leader in energy and technology innovation and have given us an undeniable strategic advantage in the global marketplace. However many barriers prevent national labs from getting more of their game-changing technologies into the market and collaborating effectively with U.S. innovators and businesses to build next-generation products.

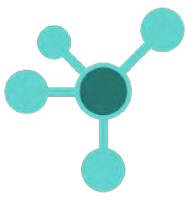
Traditionally, market value determinations are done through methods such as analysis, workshops, and road-mapping exercises. The Energy I-Corps model aims to more rapidly provide critical feedback to the technology development process using lessons learned from activates like customer discovery interviews and industry mentor interactions.

EERE sought to create a training program based on the customer discovery process and industry engagement. EERE identified the NSF's I-Corps program as one of the key validated models in this area, specifically focused on increasing the commercial impact of federally funded research and enhancing scientists' market awareness. Started in 2011, I-Corps is a nationally-recognized training program that helps prepare scientists and engineers to extend their focus beyond the lab. Energy I-Corps builds upon the I-Corps model while adapting it to the unique features of the national labs and EERE's mission space.

EERE collaborated with the I-Corps team to leverage best practices and create a similar training program tailored to the challenges faced by national lab researchers preparing laboratory-developed technologies for market evaluation. Having recently completed its 5th cohort, Energy I-Corps has proven extremely valuable and enlightening to researchers who have completed the program. This Lab Call seeks to identify teams for its fall cohort.

D. PROGRAM STRUCTURE

Energy I-Corps consists of four key elements, summarized below:




Lead Lab (aka the Node): The National Renewable Energy Laboratory (NREL) will serve as the Node for this program. The Node is responsible for developing and delivering the training, as well as providing program guidance to participating labs. The initial in-person session will likely take place in Golden, CO.

Participating Labs (aka Sites): Energy I-Corps Sites will recruit, assemble, and send teams to the Node for training, as well as support teams both during and after the program. Support might include assistance in identifying Entrepreneurial Leads (ELs) and Industry Mentors (IMs), as well as Technology Transfer/Technology Deployment support for potential market pathways identified by the team during training. Each site will also collect metrics during and after their team(s) complete the program and distribute these quarterly to the Node. These metrics are critical to assessing and improving the program.

Teams: Applicants will apply to Energy I-Corps as a team, composed of a Principal Investigator (PI) with a commercially relevant technology, an Entrepreneurial Lead (EL), and an Industry Mentor (IM) (see section I-E for team member descriptions). Over the course of the training, teams will identify potential market pathways for their selected technology, as well as identify opportunities where further development could lead to commercial value. **The time commitment to this program is significant for both the PI and the EL, and teams should do their best to organize their workload during the training period accordingly.**

Training Program: The training program will span two months, utilizing a custom-designed curriculum built on the Lean LaunchPad methodology. During these two months, teams will attend in-person sessions, participate in weekly webinars, and learn from one on ones with instructors to systematically identify the most appropriate market application and commercialization pathway for their technology. Participation also requires a considerable amount of time spent outside of the classroom conducting customer discovery interviews.

E. SCOPE OF ACTIVITIES AND TECHNOLOGY AREAS

Funding is provided to cover time and expenses for teams to participate in the two-month training program. A sample syllabus for this training is provided in Appendix B. Below are some of the expected activities for participants:

1. Team presentations
2. Lectures
3. Workshop activities
4. Customer discovery interviews
5. Travel to opening and closing sessions
6. Participation in weekly webinars
7. Completion of pre- and post-training surveys
8. Communications deliverables due during and after training
9. Regular interaction with lab manager/Node after program to report on progress

Team Requirements

The team is the core unit of Energy I-Corps program. Each team should consist of a Principal Investigator (PI), an Entrepreneurial Lead (EL), and at least one Industry Mentor (IM). Each team member is expected to fully participate in the training program— including the opening in-person session, online sessions, and in-person lessons learned closing session—and together they are expected to meet

the requirements set by the Node. Over the course of the training, teams will explore potential market pathways for a selected technology and present a plan that includes next steps for that pathway at the closing session.

Lab Requirements

In addition to supporting the team during and after the program (see Section D: Program Structure), labs will be required to provide quarterly updates on their teams, including but not limited to the following information:

- Licenses (in negotiation or executed)
- Start-ups launched (with PI, or built around licensed IP with outside entrepreneur)
- Industry partnerships, such as CRADAs (in negotiation or executed)
- Additional funding (TCF, FOA award, outside investment, other)
- Publications
- Media presence (articles, blogs, interviews, etc.)
- Speaking engagements (internal or external)
- Invitations to pitch events or technology showcases
- Inclusion in follow-on programs like CTO, CET, I-Corps, other
- Advances in TRL (technology readiness level)
- Industry engagement (customer discovery, investor discussions, etc.)

Metrics will be due on the following dates each year:

- March 31st
- June 30th
- September 30th
- December 31st

Recommended Team Structure

- Principal Investigator (PI): The technical lead and project manager based at the DOE national lab is responsible for overall team management. The PI should have a laboratory technology or other form of intellectual property identified that the team believes has a potential market application. At least 50% of the PI's time should be committed to this project during the two-month core training period. Prior experience is not required; however, the PI should be committed to pursuing potential market pathways.

- Entrepreneurial Lead (EL): The Entrepreneurial Lead may come from inside or outside of the lab. Eligible candidates include, but are not limited to, laboratory staff (beyond the PI), serial entrepreneurs, postdoctoral scholars, or graduate students. The EL is expected to commit at least 75% of their time during the core training period and should expect to contribute the most to coordinating customer interviews, delivering team presentations, and developing the business model.

- Industry Mentor (IM): Ideally, the Industry Mentor should be an experienced industry representative

or entrepreneur with substantial expertise in a relevant sector. He or she is responsible for providing mentorship to the EL and PI through the learning experience. IMs are expected to be present during the in-person opening and closing sessions, and to meet with the team on a weekly basis during the mid-session, as available. Over the course of the program, the IM can expect to contribute up to 15% of their time. To ensure unbiased mentorship, the IM should not have a direct interest in the team's technology or intellectual property.

Use of Team Funds

Each selected team will receive up to $75,000 in funding via the relevant DOE technology office. Funding may be used for the following:

Primary uses

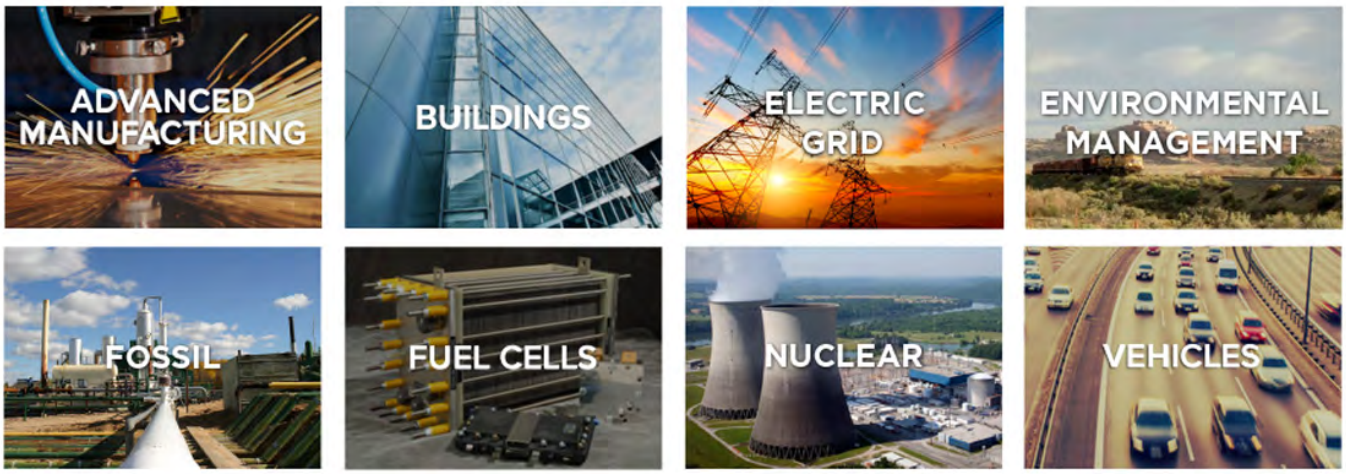
- Principal Investigator's salary (via a charge code) and compensation for the Entrepreneurial Lead, as appropriate; and
- Travel costs to cover training program participation, customer discovery meetings, and industry conferences and events.

Secondary uses (as budget allows)

- Training materials and educational resources;
- Techno-economic analysis;
- Supply chain and/or value chain analysis;
- Market survey reports;
- Technology maturation activities, such as testing and validation; and
- Specialized industry engagement support services from the laboratory or another relevant organization, beyond existing support from the lab site support team.

Note: Funds may not be used for basic or early-stage research.

Technology Areas



Teams within the following technology areas will be considered for selection under this call:

- Advanced Manufacturing
- Building Energy Technologies
- Electric Grid Components, Systems, and Controls
- Environmental Management
  - All topic areas under this technology area will be considered, however, projects related to robotics and complementary technologies are of particular interest.
- Fossil Energy Technologies
  - Only technologies related to carbon capture, storage, and utilization will be considered.
- Fuel Cells
- Nuclear Energy
- Vehicle Technologies

Funding for FY17-18 cohorts are subject to the availability of appropriations and congressional direction.

Note: Technologies submitted for consideration may be any TRL, but should be at a stage in development that allows the team to identify potential partners within a target market.

Section II: Funding Information and Eligibility

A. TYPE OF FUNDING INSTRUMENT

EERE anticipates funding the laboratory work through FY 2017 Annual Operating Plans with the national laboratories, through the technology office budgets.

B. ESTIMATED FUNDING

EERE anticipates that approximately $1,050,000 for Cohort 6 (subject to the availability of appropriated funds and congressional direction) will be available for this program in FY 2018. Teams will be funded using FY17 funds from participating DOE offices.

Max amount of funding to be provided per team: $75,000

EERE is under no obligation to pay for any costs associated with preparation or submission of proposals. EERE reserves the right to fund, in whole or in part, any, all, or none of the proposals submitted in response to this Lab Call.

C. PERIOD OF PERFORMANCE

2-month training program

D. ELIGIBILITY

Only Department of Energy national laboratories are eligible to apply under this Lab Call.

E. COST SHARING

Cost sharing is not required; however, labs may supplement team budgets with internal funding resources. DOE offices may also choose to share costs of a team with an overlapping technology area.

F. SELECTION NOTICES

Selected Applicants Notification: The technology office providing funding will select teams following the close of the Lab Call, and the Node will work with each lab to notify applicants selected for funding. Notice of selection will represent that the process for funding actions has begun and depending on lab policies may be considered an authorization to begin performance.

Non-selected Notification: Organizations whose proposals have not been selected will be advised as promptly as possible.

Section III: Application Review Information

A. CRITERIA

1. Initial Eligibility Review

Proposals submitted after the full proposal deadline of **3:00 p.m. (ET) on May 29, 2017** will be declined without review. Prior to a full merit evaluation, the Node will perform an initial eligibility review to determine that (1) the applicant is an eligible entity under this Lab Call; (2) the information required by the Lab Call has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the Lab Call. Proposals that fail to pass the initial eligibility review will not be forwarded for merit review and will be eliminated from further consideration.

2. Merit Review Process and Criteria

Applications which have passed the eligibility review by the Node will be provided to the relevant technology offices for further review and selection. The areas of consideration during this review may include, but are not limited to, the following (areas are not weighted or ranked):

1. Potential for market viability and impact
2. Team capabilities and availability
3. Quality of application
4. Fit with technology office priorities

Section IV: Other Information

A. LABORATORY POC REGISTRATION

The laboratory Point of Contact (POC) for this Lab Call should a person with responsibility for Technology Transfer/Technology Deployment (or other relevant area) within the laboratory. To register as a POC for this Call, please send an email with the subject line "Energy I-Corps Site POC Registration" with your name, job title, email, and phone contact information no later than **3:00p.m. (ET) on May 8, 2017**, to EnergyICorps@NREL.gov.

Laboratory POCs are the primary conduit through which information regarding this Laboratory Call is sent and received from the Node. It will be the responsibility of these individuals to make certain that each proposal and supporting materials responsive to this Call are submitted to the Node on behalf of their laboratory on time. It is also the responsibility of the POC to communicate programmatic decisions and actions to the PI named on the application from their laboratory faithfully and accurately as a result of the selection. Laboratories are welcome to name multiple POC(s) if they so desire.

B. MODIFICATIONS

Notices of any modifications and other correspondences related to this Lab Call will be sent to all registered laboratory POCs.

C. TRAINING DATES

Kickoff Webinar: September 27, 2017
In-Person Opening Session (held in Golden, CO): October 3 - 6, 2017
Weekly Webinars: Wednesday afternoons October 11 - November 8, 2017
In-Person Closing Session (held in Washington, DC): November 14 - 16, 2017

Section V: Proposal Submission Instructions and Template

Proposals must be submitted by email to EnergyICorps@NREL.gov by **May 29, 2017**. The PI should receive an email acknowledging receipt of the proposal within 24 hours. Please contact Kristin.Clary@NREL.gov if a receipt is not received. The proposal should utilize the template below, and be submitted PDF format. Proposals should include an appendix of team members' bios (1-page max each) and may include up to 3 Powerpoint slides; no additional documentation will be reviewed.

Instructions

1. All applications must be submitted through a registered laboratory POC. Applications submitted outside of this process will not be considered. (See section IV-A for details and instructions – deadline to request POC status is **3:00 p.m. (ET) May 8, 2017**.)
2. Applicants must utilize the template provided below and submit applications as a single PDF through their laboratory POC to the submission email address provided.

Team Member Identification

At a minimum, the PI for the team must be identified at the time of submission. The EL and IM should also be identified at this time, when available. If the EL and IM are not identified at the time of submission, the PI should indicate their plan for identifying remaining team members (source, timeline, etc.). All remaining team members must be identified no later than July 30, 2017**.**

Appendix A: Application

Department of Energy's Energy I-Corps Team Application

Applications Due: **May 29, 2017**
Please submit answers as a PDF to EnergyICorps@NREL.gov

1. Team:

   Please attach short bios for each member – one page max for each. (See Lab Call for member descriptions.)

   a. Principal Investigator (PI):

   b. Entrepreneurial Lead (EL):

   c. Industry Mentor (IM):

2. Funding:

   a. How was the development of your technology funded? (AOP, LDRD, etc.)

   b. From which technology area are you seeking team funding for participation in Energy I-Corps? (See Lab Call for area descriptions; may select more than one as applicable.)

   c. How much funding are you requesting? (Max is $75k)
   Please attach a high-level budget that details the breakdown of your team's time and expenses (should include travel to opening and closing sessions).

3. Selected Technology:

   a. Title(s):

   b. Technology area:

   c. Brief technical description: (250-word limit)

   d. What intellectual property (IP) has been generated, and what is the status?

4. Describe the problem that your technology solves, and for whom the problem is being solved (250-word limit):

5. Have you identified any competitors working in this space? Who might be your competition? How does your solution differ from the competition? This should include your market's current technology providers and innovators working on similar projects. (100-word limit)

6. Why do you and your team want to participate in Energy I-Corps? What do you hope to learn or accomplish? (250-word limit)

7. Describe what you think is the likely pathway to go from the current state of development to market adoption of the technology. (250-words limit)

8. Selected teams will be required to dedicate a significant amount of time to participate in the Energy I-Corps program. Please indicate that, if your project is selected, the PI and EL are willing to dedicate 50-75% of their time (this will vary from week to week) to the program during the two-month period.

   Is your team available for all in-person and web-based sessions for the fall cohort?

   Kickoff Webinar: September 27, 2017
   In-Person Opening Session (held in Golden, CO): October 3 - 6, 2017
   Weekly Webinars: Wednesday afternoons October 11 - November 8, 2017
   In-Person Closing Session (held in Washington, DC): November 14 - 16, 2017

   Indicate: Yes or No

9. If you would like to provide supporting information in the form of a slide deck, please attach it here (optional).

   Attach the application and PowerPoint slides as one PDF file and please also send any copies of the PowerPoint slides as a PPT/PPTX file. No more than three pages (slides) in presentation format. Appropriate information includes: visual representations of your technology, market profile, market size, etc.

Appendix B: Sample Syllabus

Energy I-Corps

Cohort 5 | Spring 2017

Wednesday, February 15 – Thursday, April 20, 2017
Golden, Colorado – Webinar – Denver, Colorado

Materials:

- The Startup Owner's Manual – Steve Blank
- Business Model Generation – Alexander Osterwalder

At-a-Glance Schedule

Kickoff Meeting WebEx Session	Wednesday, February 15, 12:00 – 2:00 pm
Welcome and Program Kickoff The Golden Hotel Golden, CO	Tuesday, February 21, 8:00 am - 9:00 pm
All day workshops The Golden Hotel Golden, CO	Wednesday, February 22, 7:15 am - 9:30 pm Thursday, February 23, 7:15 am - 9:00 pm Friday, February 24, 7:45 am - 5:00 pm
WebEx sessions	Wednesdays, 3/1, 3/8, 3/15, 3/22, 3/29, 4/5, 4/12 12:00 – 2:00 pm
All day workshops and final presentations Denver, CO	Tuesday, April 18, 7:45 am - 9:00 pm Wednesday, April 19, 7:30 am - 8:30 pm Thursday, April 20, 7:45 am – 2:30 pm

****ALL TIMES LISTED THROUGHOUT THE SYLLABUS ARE IN MOUNTAIN TIME**

About Energy I-Corps – Creating Market Pathways for Laboratory Research

The Energy I-Corps program is a specialized training curriculum intended to:

- Increase the number of national laboratory-developed technologies that are transferred into commercial development or industry agreements;
- Train national laboratory researchers to better understand the commercialization process and private sector needs; and
- Transform national laboratory culture to value commercialization and entrepreneurial activities.

Administered by the U.S. Department of Energy's (DOE's) Office of Energy Efficiency and Renewable Energy, Energy I-Corps is a new model of engagement as a part of the Lab Impact Initiative. In addition to Energy I-Corps, the Lab Impact Initiative utilizes the Small Business Voucher and Technologist-in-Residence programs to increase and enhance laboratory-private sector relationships, streamline access to national laboratory capabilities, and demonstrate the value of laboratory-developed science and technology.

Detailed Course Schedule and Syllabus

Note - This curriculum requires in-depth preparation and significant effort outside of the laboratory and outside of the classroom. Please review the syllabus carefully for presentation assignments and recommended videos and chapters for each module.

Assignments *are listed immediately prior to the* ***Detailed Session Schedule*** *in the following pages.* ***PLEASE*** *review the syllabus in its entirety* ***prior*** *to beginning the course and plan to make use of the available videos and textbook readings in order to complete your assignments.* ***All assignments should be completed prior to that day's session.***

Program Requirements

Attend, as a team, each of the in-person and online training sessions. It is imperative that each team member commit to class time in addition to customer discovery interviews and follow-up on LaunchPad Central each week. Time management will be critical to successfully navigating the demanding Energy I-Corps Program schedule while staying on track with your research projects.

Milestones

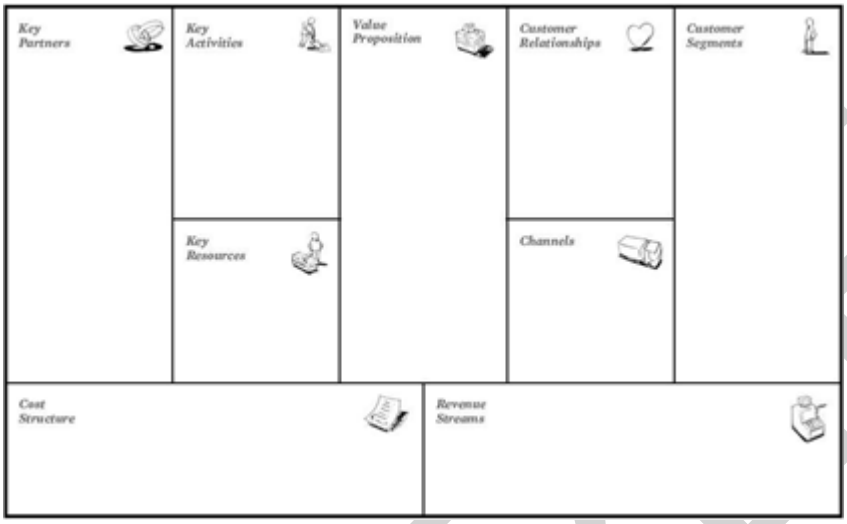
- Attend all in-person sessions and participate in all workshops and team presentations
- Attend all web-based sessions and participate in group discussions and team presentations
- Complete baseline and post-training surveys
- Attend graduation session and participate in team presentations
- Meet with your lab's Tech Transfer/Commercialization Office before, during, and after program

Deliverables

- Daily/Weekly presentation assignments as detailed in the syllabus
- Capstone team presentation that incorporates learnings from the course
- Graduation presentation (see syllabus assignment for details)
- 1-2 minute team video (see syllabus assignment for details) to be shown at graduation
- Key Takeaways Report for DOE (template will be provided)
- Interviews and BMC iterations entered into LaunchPad Central
- Peer feedback on team presentations in LaunchPad Central
- Conduct Office Hours with faculty for targeted team feedback

Tools

- **Business Model Canvas (BMC)** – a BMC will be available in LaunchPad Central (see next bullet)



- **Launch Pad Central (LPC)** – www.launchpadcentral.com - Throughout this program, you will be using LaunchPad Central in order to track your progress. In this tool, you will be able to give other teams peer feedback, document all of your customer interviews, receive feedback from the teaching team, update your business model canvas, and access all of the lectures for the course.

- **Videos** - These can be found in LPC under the Resource Hub. There are many, but most do not exceed 3-5 minutes in length, and they will be a valuable resource as you begin your customer discovery process and fill out your BMC. Specific videos will be assigned at various points throughout the syllabus, but you should consult them as often as needed as a refresher on course content.

- **Steve Blank's website** - www.steveblank.com - There is an incredible amount of information on Steve's page. As the father of the Lean Launchpad model and the NSF I-Corps training, we will refer to Steve's books and website during Energy I-Corps. Please become familiar with his webpage and LinkedIn materials.

- **Webinars** – Webinars will be used for the two course preparation sessions prior to the program kickoff, as well as the mid-session weekly team presentations. You will receive webinar login instructions from the Energy I-Corps Node prior to the start of the course.

- **Books** – Please be sure to bring **The Startup Owner's Manual** and the **Business Model Generation** books to the kickoff event.

Cohort 5 Faculty Team

Aaron Crumm
Founder
Adaptive Materials
aaron.crumm@gmail.com

Dr. Aaron Crumm – Founder, Adaptive Materials Inc. Aaron Crumm's PhD work at the University of Michigan led to Ultra Electronics, Adaptive Materials, Inc. (AMI) becoming an alternative energy market leader. Crumm's simple, yet radical, business proposition was to develop a portable solid oxide fuel cell system that ran off of readily available fuel. Crumm's work has attracted more than $50 million in contracts to support the growth of AMI. His success in leveraging research grants as part of AMI's business acceleration strategy was integral to the company's ability to remain privately held and focused on fuel cell product development. The company was acquired by defense industry giant Ultra Electronics in 2010. AMI has been recognized for its dynamic growth with Ann Arbor SPARK FastTrack, Inc. 5,000, and Inc. 100 Energy Company awards. Aaron Crumm has also individually recognized as an entrepreneur with multiple awards including Executive of the Year in 2011. Prior to founding Adaptive Materials, Crumm gained insight into electric power generation as a nuclear engineer. He earned his bachelor of science degree in nuclear engineering from Purdue University and a PhD in material science from the University of Michigan. Crumm is an advisor at Augment Ventures and Entrepreneur in Residence with the University of Michigan Center for Entrepreneurship and a lecturer on entrepreneurship topics within the College of Engineering Graduate program.

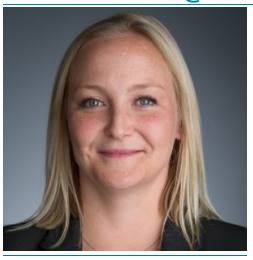
Jean Redfield
President & CEO
NextEnergy
jeanr@nextenergy.org

Jean Redfield is President and CEO at NextEnergy. Redfield previously served as the company's Vice President, Public Policy Programs, leading public-sector initiatives. Her experience includes multiple leadership roles at DTE Energy as well as consulting roles at McKinsey and Company. Her work has primarily involved strategy development, leading major change initiatives and supporting companies as they transform through major dislocations in their respective industries. She has worked in various industries (investment banking, chemicals, aerospace/defense, pharmaceutical and biotech start-ups, and energy) in the United States, Europe, Brazil, India, and China. She has also served as co-owner and CFO of Fordsell Machine Products, a precision machine products company, from 1994 to the present. Redfield holds a B.A. in biology from Washington University, St. Louis, a B.S. in civil engineering from the University of Memphis, and an M.B.A. from the Wharton School, University of Pennsylvania.

Tom Teynor
Chief Operation Officer
Ascent360
Tomteynor@gmail.com

Mr. Teynor is the Chief Executive Officer of Coolerado, a green technology company founded in 2004. Coolerado designs, manufactures and markets super-energy-efficient air conditioning systems for light commercial use, based on its proprietary, patented and proven technology. Customer energy savings as much as 90% have been recorded with this cost-effective technology. Coolerado products are currently operating in 40 countries worldwide. Mr. Teynor joined Coolerado in 2011, and is responsible for the overall strategic direction and long-term growth. He brings almost 20 years of experience growing businesses in the software, financial services, and internet services industries. Mr. Teynor held senior leadership positions at Wolters Kluwer Financial Services, Pitney Bowes, and Wells Fargo Bank. He also serves on the board of TopLine federal credit union and served as the Chair of the finance committee. Mr. Teynor received both his Bachelor of Business Administration and MBA degrees from the University of St. Thomas in Minnesota.

Cohort 5 Adjunct

Erin Beaumont NREL Licensing Executive Erin.Beaumont@nrel.gov 	Erin joined NREL in 2015 as a licensing executive responsible for the commercialization of NREL's buildings and energy integration, energy storage, electrochromics, concentrating solar power, wind, and geothermal portfolios. Prior to joining NREL, Erin spent a number of years as an innovation manager at the University of New Mexico where she managed and commercialized a portfolio of early-stage, engineering, and physical science-related inventions, including licensing and startup formation. Erin holds a Master of Public Administration degree focused on public budgeting and a Bachelor of Science in chemical engineering from the University of New Mexico.
Sally Hatcher Co-Founder – Mbio Diagnostics sally.c.hatcher@gmail.com 	Sally Hatcher, Esq. is a serial entrepreneur, advisor and board member. She co-founded and was President of two companies, including Precision Photonics, a laser & opto-electronics design and manufacturing company. Starting in the garage, the company shipped high-volume product to China, and grew to a 50+ person, highly profitable venture before selling for a great multiple. Her second company, MBio Diagnostics, focuses on point-of-care medical and animal diagnostics, using laser-based waveguide systems to detect up to 80 biomarkers at once. Recently, Sally spent a year as President/COO of a Kindara, a women's health company, where she shipped the first hardware product (a connected device to generate revenue off a free app) and gained ISO 13485, CE mark, FDA Class II, FCC and HC/ICC marks. Sally's business and law background comes from her time as a consultant with McKinsey & Co. and an Assistant Attorney General for Colorado. She sits on several boards and is active in environmental and women's issues.

Energy I-Corps Program Team

Jennifer Ramsey Energy I-Corps Program Director Jennifer.ramsey@nrel.govmailto:Jennifer.ramsey@nrel.gov 954-937-6335mailto:Matt.Ringer@nrel.gov	**Shelly Curtiss** Deputy Director Colorado Cleantech Industries Association shelly@coloradocleantech.commailto:shelly@coloradocleantech.com 303-332-9707
Kristin Clary Energy I-Corps Program Manager Kristin.clary@nrel.govmailto:Kristin.clary@nrel.gov 303-275-3088	**J.A. Colantonio** Energy I-Corps Program Coordinator and Teaching Assistant JA.Colantonio@nrel.gov 303-384-3751

Pre-Program Team Preparation

The Energy I-Corps program follows a very demanding schedule from Kickoff to Graduation, but a bit of preparation beforehand can help prepare you for success. ***The following items should be addressed before the program kickoff on February 15th****:*

- **Technology Transfer Coordination Session** – Meet with your Tech Transfer/Commercial Deployment Office to discuss the status of your IP and the potential pathways for commercialization in the context of your participation of the Energy I-Corps Program.
- **Competitive Analysis** – Teams should arrive having at least a general knowledge of who the other players are in their proposed market.
- **LaunchPad Central** - Login information for each team will be provided in advance of program kickoff. Log-in to LaunchPad Central and familiarize yourself with the tool.
- **BMC/Customer Discovery Videos** - There are many videos in the resource library in LPC; you can save yourself time during the program by watching some ahead of time. At a minimum, watch the Pre-Planning videos listed in Customer Discovery Best Practices module in the Course Videos section in LPC before the first webinar.
- **Webinars** - There will be a pre-program webinar conducted on February 15, 2017. This webinar will provide valuable information to teams as they prepare and team **attendance is required in order to participate in the program**.

Wednesday, February 15 (Webinar)

Assignment

Videos:

- **Customer Discovery Best Practices: Pre-Planning 1 and 2**
- **Customer Discovery Best Practices: Interviews 1 and 2**
- **Customer Discovery Best Practices: Asking the Right Questions**
- **Lecture 1.5A: Business Models and Customer Development (all)**

Reading:

- *"Why the Lean Start-Up Changes Everything" by Steve Blank, Harvard Business Review*
  https://hbr.org/2013/05/why-the-lean-start-up-changes-everything
  (You may not be thinking about a start-up at this point, but this article will highlight the Lean LaunchPad methodology and the Customer Discovery process that will be utilized in the Energy I-Corps curriculum)

Recommended Reading:

- **Business Model Generation:** Pages: 14-42, Defining a Business Model and The Nine Components of a Business Model Canvas

Other:

- **Review complete syllabus**
- **Technology Check - Log into LaunchPad Central**
- **Complete Baseline Survey**

Detailed Schedule

12:00 – 2:00 pm MST

12:00 - 12:15 pm	Program Introduction	Introductions and Welcome to Energy I-Corps! Program Goals & Expectations - What does Energy I-Corps "Success" look like? What Commercialization Pathways are available to my team upon completion of the program?
12:15 - 1:00 pm	Info Session	Voices of Experience - RF Tag Team from PNNL will share their experiences from Energy I-Corps Cohort #4. Q&A Session will follow.
1:00 - 1:30 pm	Lecture	Introduction to Value Proposition and the Customer Discovery Process - What do you do and why do you do it? Who cares and for whom are you creating value? What pain are you solving or gain are you providing? What customer need are you satisfying? VP works hand in hand with who your customers are; this is the "product-market-fit." So who are your potential customers and why do they need your technology or service? So what is customer discovery? It's time to set up interviews! What questions do you ask? Session includes program expectations for setting up and conducting customer discovery interviews.
1:30 - 1:45 pm	LPC Overview and Demo	LPC Overview and Demo
1:45 - 2:00 pm	Info Session	Looking Ahead to Day One - Expectations for arrival in Golden.

Energy I-Corps Cohort 5

February 21 - 24, 2016
Program Kickoff - Golden, CO

Tuesday, February 21 – Day 1

Assignment

Videos:

- Lecture 1.5B: Business Models and Customer Development (all)
- Lecture 2: Value Proposition
- Lecture 3: Customer Segments

Recommended Reading:

- **The Startup Owner's Manual**: Chapter 3 – An Introduction to Customer Discovery
- **The Startup Owner's Manual**: Market Size Checklist (p. 472)

Other:

- Conduct Two (2) "test" interviews prior to arrival on Day One. These interviews can be conducted on colleagues, your Tech Transfer Office, even a friend or family member. Enter the interview information in LPC. The intent is to get a bit of practice in before conducting actual Customer Discovery interviews and to get used to entering interviews into LPC.
- Line up at least Five (5) Customer Discovery interviews for your "Out of the Building" time in Golden on Day 2
- Develop the first iteration of your Business Model Canvas in preparation for your first presentation; you can expect several iterations over the course of the program. There is a PPT template under the Resource Hub in LPC that you may use for your presentations. Be sure to also populate the BMC inside of your team page in LPC.
- Start to identify your market size (TAM/SAM) in LPC under your Team Profile (initial best guess - this will likely change over the course of the program).
- Propose hypotheses to test your customer segments and value propositions.
- Get ready to get out of the building!

****Your first presentation is due on Tuesday MORNING at 7:00 a.m. MST**

Tuesday, February 21 – Day 1

Detailed Course Schedule

**REMINDER – Your presentation for Wednesday, February 22 is due in LaunchPad Central by 7:00am

8:00 - 9:00 am	Breakfast	
9:00 - 9:30 am	Program Kickoff	Welcome to Energy I-Corps! - Faculty & Staff Introductions. Program overview and expectations.
9:30-10:50 am	Team Presentations	6 Teams - 8 minutes each, 5 minutes Q&A - Presentation on technology and team introductions - Where are you in your technology readiness?
10:50 - 11:00 am	Break	
11:00 - 12:30 pm	Team Presentations	7 Teams - 8 minutes each, 5 minutes Q&A - Technical Presentation
12:30 - 1:30 pm	Lunch	Guest Speakers - NREL Energy I-Corps Cohort 4 teams - How to Survive Energy I-Corps
1:30 - 2:00 pm	Lecture	Business Model Canvas (BMC) and the Lean LaunchPad Methodology (LLP) - What is a BMC and how is it used in the Lean Launchpad Methodology? What are the 9 parts of the BMC? Setting the stage for using this process over the course of the program.
2:00 - 2:30 pm	Lecture	BMC - Value Proposition - What is your product or service? What value do you deliver to the customer and how is it better/different than what is already in the market? Why will people want what you're offering? Who is the competition and how does your customer view these competitive offerings? What makes your offering unique?
2:30 - 3:30 pm	Breakout	BMC Workshop/VP Workshop
3:30 - 3:45 pm	Break	
3:45 - 4:15 pm	Lecture	Customer Segments 1.0 - Who is the customer? Why do they buy? What is your customer archetype or persona? How can you reach them? How do you decide which customer segments to pursue?
4:15 - 4:45 pm	Breakout	Customer Segments Workshop - How to Talk to Different Customer Personas.
4:45 - 5:45 pm	Guest Speaker	Andrew Maxey – President of Vartega
5:45 - 6:15	Dinner break	
6:15 -7:00 pm	Workshop	Interviewing 1.0 - You're headed "out of the building" tomorrow. What are you trying to find out? How will you call on people you don't know. How can you get the most out of people you do. Expectations, speed, tempo, logistics, commitments. How do I interview? How is an interview different than a sales call?
7:00 - 7:30 pm	Breakout	EL, IM, PI Breakout Session
7:30 - 9:00 pm	Office Hours	Meet one-on-one with faculty

Wednesday, February 22 – Day 2

Assignment

Presentation #2 due today by 7:00 a.m. in LaunchPad Central.

Recommended Readings:

- **The Startup Owner's Manual**: Chapter 4 – Customer Discovery: State Your Business Model Hypothesis (Note that hypotheses for physical products often differ from web/mobile products. Where the hypothesis issues differ, each is described separately. Depending on your product/service, please read the sections in this chapter most applicable to your project. Look at page 465 for a breakdown of Chapter 4.)

Presentation:

- Slide Presentation 2 (see slide presentation guide for details)

Other:

- Be prepared to meet at least 5 customers today.
- Following your meetings, **update LPC** with meeting notes, revised value propositions, validated or invalidated hypotheses, mentor engagement notes, etc.
- Schedule time to meet with someone from the instructor team during Office Hours tonight

Wednesday, February 22 – Day 2

Detailed Course Schedule

**REMINDER – Your presentation for Thursday, February 23 due in LaunchPad Central by 7:00 am

7:15 - 8:00 am	Breakfast	
8:00 - 8:45 am	Lecture	Commercialization in the DOE Laboratory Environment - How do we commercialize DOE lab technologies and why? How does Energy I-Corps fit within that framework and how can this experience impact your research?
8:45 - 10:00 am	Team Presentations	6 Teams (8 minutes each) (3 mintues faculty)
10:00 - 10:15 am	Break	
10:15 - 11:45 am	Team Presentations	7 Teams (8 minutes each) (3 mintues faculty)
11:45-12:00 pm	Lecture	Interview recap
12:00 PM	Lunch	Pick-up Boxed Lunch
12:00-5:15 pm	Customer Discovery	Customer Discovery - Get out of the building!
5:15-6:00pm	Group Discussion	Interviewing 2.0 - So you were out of the building...how did it go? Lessons Learned. Which interview strategies worked and which didn't? How will you make changes for tomorrow's interviews?
6:00-7:00 pm	Dinner	
7:00-8:00 pm	Workshop	Develop interviewing skills/approach, meet the other Energy I-Corps teams and practice your elevator pitch and networking skills
8:00-9:30 pm	Office Hours	Meet one-on-one with faculty

Thursday, February 23 – Day 3

Assignment

Presentation #3 due in LaunchPad Central by 7:00 am on February23.

Videos:

- Lecture 4: Channels

Recommended Reading:

- **Business Model Generation**: Customer Insights (p. 126-133)
- **The Startup Owner's Manual**: Chapter 5 - Customer Discovery: Get Out of the Building to Test the Problem; "Do People Care?"
- **The Startup Owner's Manual** -
    - Channels Hypothesis: 98-103
    - Customer Validation: 296-303
    - Sales Channel Roadmap: 332-337

Presentation:

- Slide Presentation 3 (see slide presentation guide for details)

Other:

- Be prepared to meet at least 3-5 customers today.
- Following your meetings, **update LPC** with meeting notes, revised value propositions, validated or invalidated hypotheses, mentor engagement notes, etc.
- Prepare for Industry Night One-on-One Meetings (list will be provided in advance)

Thursday, February 23 – Day 3

Detailed Course Schedule

7:15 - 8:00am	Breakfast	
8:00 - 9:00 am	Team Presentations	3 Teams - 2 Tracks (10 minutes each)(5 minutes faculty)
9:00 - 9:15 am	Break	
9:15 - 10:15 am	Team Presentations	3 Teams/4 Teams - 2 Tracks (10 minutes each)(5 minutes faculty)
10:15- 10:30 am	Break	
10:30 - 11:00 am	Lecture	The Energy Industry Ecosystem - What drives decision making in the energy industry? How do you determine the ecosystem for your product/service? How do you identify potential customers within that ecosystem? What is a value chain?
11:00 - 11:30 am	Breakout	Ecosystem Workshop
11:30 - 12:15 pm	Lecture	BMC Module - Customer Channels - What is a channel? Physical versus virtual channels. Direct channels, indirect channels, OEM. Business to Business (B2B) versus Business to Consumer (B2C) channels.
12:15 PM	Lunch	Pick up boxed lunch
12:15 - 4:30 pm	Customer Discovery	Customer Discovery - Get out of the building!
4:45 PM		Reconvene at The Table Mountain Inn-Arapahoe room (PROMPTLY @ 4:45)
5:00 - 7:30 pm	Special Session	Industry Night - Energy community one-on-ones. Teams will be paired with industry executives who can provide business and technology specific feedback. Each team will receive a schedule of meetings for this session.
7:30 - 9:00 pm	Office Hours (at Table Mountain Inn)	Meet one-on-one with faculty

**REMINDER – Your presentation for Friday, February 24 is due in LaunchPad Central by 7:00 am

Friday, February 24 – Day 4

Assignment

Presentation due in LaunchPad Central by 7:00 am on February 24

Videos:

- Lecture 7 - Partners

Recommended Reading:

- **The Startup Owner's Manual**: Chapter 6 - Get Out of The Building and Test the Product Solution
- **The Startup Owner's Manual**: Checklists
  - Partners (p. 484)

Presentation:

- Slide Presentation 4 (see slide presentation guide for details)

Other:

- Plan your strategy for maintaining customer discovery momentum over the next six weeks.

Friday, February 24 – Day 4

Detailed Course Schedule

7:45 - 8:30 am	Breakfast	
8:30 - 9:30 am	Team Presentations	3 Teams - 2 Tracks(10 minutes each)(5 minutes faculty)
9:30 - 9:45 am	Break	
9:45 - 10:45 am	Team Presentations	3 Teams/4 Teams - 2 Tracks (10 minutes each)(5 minutes faculty)
10:45 - 11:00 am	Break	
11:00 - 11:45 am	Lecture	BMC Module - Industry Partners - Who are your potential partners? Why have partners? What types of relationships do you want or need to have with your partners? This is a two-way street...what's in it for your partner? Session will also address partnership opportunities as they relate specifically to the national laboratory environment.
11:45 - 12:15 pm	Breakout	Breakout Industry Partners
12:15 - 1:30 pm	Lunch w/ Panel Discussion	Lunch w/ Panel Session - Maintaining your momentum and keeping your focus over the next six weeks. Time management when you're back at your lab and facing competing priorities.
1:30- 2:00pm	Closing Session	Closing Remarks and Send-off
2:00 - 5:00pm	Customer Discovery	Get Out of the Building! - End of Kickoff Session (Teams may stay in Golden and conduct interviews or depart for airport)

Wednesday, March 1 – Week 2 (Webinar)

Assignment and Detailed Schedule

Prepare presentation for first WebEx call: you will have 10 minutes to present

Presentation due in LaunchPad Central by 10:00am MT on March 1.

Videos:

- Customer Discovery Best Practices:
  - Death by Demo 1
  - Death by Demo 2
  - Assuming You Know
  - Death by PowerPoint

Recommended Reading:

- **Business Model Generation**: Ideation (p. 134-145)
- **Business Model Generation**: Visual Thinking (p. 146-159)
- **The Startup Owner's Manual**: Checklists
  - Market Size (p. 472)
  - Capture Market Knowledge (p. 492)

Presentation:

- Slide Presentation 5 (see slide presentation guide for details)

Other:

- Customer Discovery - Continue to interview 10-15 customers during the week

Wednesday, March 1			
12:00 - 1:30 pm	Team Presentations	6/7 Teams - 2 Tracks (10 minutes each)	All Instructors, All Teams

Wednesday, March 8 – Week 3 (Webinar)

Assignment and Detailed Schedule

Presentation due in LaunchPad Central by 10:00am MT on March 8.

Videos:

- Lecture 6 – Revenue Model

Recommended Reading:

- **Business Model Generation:** *(Review)* Revenue Streams (p. 30-31)
- **Startup Owner's Manual:** Checklist
    - Revenue and Pricing Hypothesis (p. 485)

Presentation:

- Slide Presentation 6 (see slide presentation guide for details)

Other:

- Customer Discovery - Continue to interview 10-15 customers during the week

Wednesday, March 8			
12:00-1:30 pm	Team Presentations	Partners Homework Assignment (5 minutes each)	All Teams
1:30-2:00pm	Lecture	Revenue Models - What is a revenue model? What types of revenue streams are there for the energy industry?	Aaron Crumm

Wednesday, March 15 – Week 4 (Webinar)

Assignment and Detailed Schedule

Presentation due in LaunchPad Central by 10:00am MT on March 15.

Videos:

- Lecture 5: Customer Relationships
- Customer Discovery Best Practices:
  - Understanding the Problem
  - Customers Lie
  - The Distracted Customer
  - Engaging the Customer
  - Customer Empathy

Recommended Reading:

- **Business Model Generation:** *(Review)* Customer Relationships (p. 28-29)
- **The Startup Owner's Manual:** Checklists
  - Customer Relationships (p. 480-481)
  - Gain Customer Understanding (p. 491)

Presentation:

- Slide Presentation 7 (see slide presentation guide for details)

Other:

- Customer Discovery - Continue to interview 10-15 customers during the week

Wednesday, March 15			
12:00 - 1:30 pm	Team Presentations	6/7 Teams - 2 Tracks (10 minutes each)	All Instructors, All Teams

Wednesday, March 22 – Week 5 (Webinar)

Assignment and Detailed Schedule

Presentation due in LaunchPad Central by 10:00am MT on March 22.

Videos:

- Customer Discovery Best Practices:
  - The User, the Buyer, and the Saboteur
  - The Multi-Person Interview
  - B to B to C
  - Existing vs. New Markets**:**
- Re-watch Lecture 6 – Revenue Model

Recommended Reading:

- **Business Model Generation**: Strategy
  - Business Model Environment (p. 200-211)
  - Evaluating Business Models (p. 212-225)

Presentation:

- Slide Presentation 8 (see slide presentation guide for details)

Other:

- Customer Discovery - Continue to interview 10-15 customers during the week

Wednesday, March 22			
12:00 - 1:30 pm	Team Presentations	Revenue Homework 6/7 Teams - 2 Tracks (5 minutes each) - Revenue Models - What is a revenue model? What types of revenue streams are there for the energy industry?	All Instructors, All Teams

Wednesday, March 29 – Week 6 (Webinar)

Assignment and Detailed Schedule

Presentation due in LaunchPad Central by 10:00am MT on March 29.

Videos:

- Lecture 8: Resources, Activities & Costs
- Customer Discovery Best Practices:
  - Public Interviews
  - Extracting Insight from Data
  - Getting the MVP Right
  - Pay attention to Outliers
  - The Other 85%

Recommended Reading:

- **Business Model Generation**: Strategy
  - Business Model Perspective on Blue Ocean Strategy (p. 226-231)
  - Managing Multiple Business Models (p. 232-239)
- **Startup Owner's Manual:** Chapter 7 - Verify the Business Model and Pivot or Proceed
- **Startup Owner's Manual:** Checklist
  - Update the Business Model (p. 493)

Presentation:
No presentation today. All teams to meet with the Tech Office that provided funding for the team.

Other:

- Customer Discovery - Continue to interview 10-15 customers during the week
- Prepare for Capstone and Graduation Presentations

The week of March 27th-31st			
	Tech Office Meetings	All teams to meet with the Tech Office that provided funding for the team. Choose a time this week that works for your team and Tech Office.	All Teams

Wednesday, April 5 – Week 7 (Webinar)

Presentation due in LaunchPad Central by 10:00am MT on April 5.

Presentation:

- Slide Presentation 9 (see slide presentation guide for details)

Wednesday, April 5			
12:00 - 1:30 pm	Team Presentations	6/7 Teams - 2 Tracks (10 minutes each)	All Instructors, All Teams

Wednesday, April 12 – Week 8 (Webinar)

Videos:

- Lecture 8: Resources, Activities & Costs
  - Metrics That Matter

Presentation:

- No Presentation: Lecture - Metrics that Matter - What does your customer care about? Savings? Speed? Reliability? Safety? Does your Value Proposition include the right metrics?

Wednesday, April 12			
12:00 - 1:30 pm	Lecture	Lecture - Metrics that Matter - What does your customer care about? Savings? Speed? Reliability? Safety? Does your Value Proposition include the right metrics?	Sally Hatcher

Tuesday, April 18 – Closing Session, Day 1

Assignment

NO presentation due today

Videos:

- Review Cohorts 1, 2, 3 & 4 Team videos in preparation for your final presentations
- Lecture 8: Resources, Activities & Costs
  - Resources Activities Costs
  - Four Critical Resources
  - Financial Resources
  - Financial Resources Quiz
  - Financial Resources Quiz Solution
  - Human Resources
  - Qualified Employees And Culture
  - Intellectual Property Overview
  - Intellectual Property Detailed
  - Intellectual Property
  - Intellectual Property Solution
  - Costs

Recommended Reading:

- **Business Model Generation**: Storytelling (p. 172-179)
- **Startup Owner's Manual:** Chapter 12 - Customer Validation: Pivot or Proceed

Presentation:

- No presentation today

Other:

- Schedule Office Hours with Faculty to prepare for final two presentations

Tuesday, April 18 – Closing Session, Day 1

Detailed Course Schedule

7:45 - 8:30 am	Breakfast	
8:30 - 8:45 am	Info Session	Welcome Back and Opening Remarks
8:45 - 9:30 am	Lecture	IP Basic Training - Patents, Copyright, Trademarks, Protection Strategies, Requirements, Writing a non-confidential summary
9:30 - 10:30 am	Panel Discussion	Lab Partnerships - What makes a good partner? How do you establish that relationship and turn it into a valuable partnership?
10:30 - 10:45am	Break	
10:45 - 11:15 am	Lecture	Customer Relationships - How do you create end user demand? How does it differ on the web versus other channels? Evangelism vs. existing need or category? General Marketing, Sales Funnel, etc. How does demand creation differ in a multi-sided market? Get keep grow.
11:15 - 11:45 am	Breakout	Workshop Customer Relationships
11:45 am - 12:45 pm	Lunch	
12:45 - 1:30 pm	Lecture	Landmines in Energy Development and Deployment - Barriers to Entry: Policy, Regulation, Certifications, Safety, NIMBY
1:30 - 2:30 pm	Lecture	Capital 101/Federal Funding Opportunities - Highlights lab funding options/opportunities and capital market funding path. Includes Q&A portion.
2:30 - 3:30 pm	Lecture	Cost - What are the most important costs inherent in an energy business model? Which key resources are most expensive? Which key activities are most expensive? Is your business more Cost Driven (leanest cost structure, low price value proposition, maximum automation, extensive outsourcing) or Value Driven (focused on value creation, premium value proposition).
3:30 - 3:45 pm	Break	
3:45 - 4:15 pm	Lecture	Building the Team - (Guest Speakers) What does it take to build a great startup team? Who are the key players and personalities that you need to grow your team? What if your team isn't working out?
4:15 - 5:15 pm	Panel Discussion	Discussion with startup veterans.
5:15 - 7:30 pm	Team Time	This time is provided to allow teams to work on their final presentations and get faculty feedback. Customer Discovery interviews may also be conducted during this time. Dinner on your own.
7:30 - 9:00 pm	Office hours	Meet one-on-one with faculty.

Wednesday, April 19 – Closing Session, Day 2

Assignment

Presentation:

- Slide Presentation 10, Capstone Presentation (see slide presentation guide for details)

Detailed Course Schedule

7:30 - 8:15am	Breakfast	
8:15 - 9:45 am	Capstone Presentations	6 Teams - 14 minutes each (10 min presentation, 4 min faculty remarks)
9:45 - 10:00 am	Break	Break
10:00 - 11:45	Capstone Presentations	7 Teams - 14 minutes each (10 min presentation, 4 min faculty remarks)
11:45 - 12:15 pm	Lecture	Capital 201: Private Capital and Investor Expectations - What are investor's expectations? What constitutes ROI? Who are the constituents that will be analyzing ROI?
12:15 - 1:00 pm	Lunch	
1:00 - 2:00 pm	Panel Session	Investor Panel - What are investors looking for in your pitch? How do you know which type of capital is right for your business? Learn from experienced investment professionals.
1:30-2:00 pm	Break	
2:00- 5:30 pm	Office Hours	Meet one-on-one with faculty.
5:30 - 7:00 pm	Team Time	This time is provided to allow teams to work on their final presentations. Customer Discovery interviews may also be conducted during this time. Dinner on your own.

Thursday, April 20 – Graduation Day (Week 10)

Assignment

Presentation:

- Slide Presentation 11, Graduation Presentation (see slide presentation guide for details)

Other:

- Team Video (Samples will be provided. See guidance below)

2-Minutes Lessons Learned Videos

- This is not a demonstration of your technology. Tell us your Energy I-Corps story. No need to get high-tech! Feel free to shoot the video with your iPhone.
- We want to hear about your journey through the Energy I-Corps program as it relates to your research, your thoughts about commercialization, entrepreneurship and customer discovery. Did Energy I-Corps change how you think about your research or interact with the community both inside and outside of the laboratory environment?
- Take pictures and videos as you progress through the program. Share your successes and your challenges. This is the story of Energy I-Corps, not your BMC.
- Get creative! There is no required format.
- **Sample videos** from Cohort 1 are available for your reference at https://drive.google.com/folderview?id=0B1d1Y4yUsv8meHZPektYeFlaelU&usp=sharing_eid&ts=575887d2&tid=0B0t85eKdM5oDLUFMcF8yd2hKNmchttps://drive.google.com/folderview?id=0B1d1Y4yUsv8meHZPektYeFlaelU&usp=sharing_eid&ts=575887d2&tid=0B0t85eKdM5oDLUFMcF8yd2hKNmc
- **Sample videos** from Cohort 2 are available for your reference at https://drive.google.com/folderview?id=0B0t85eKdM5oDRmlUaVg2S1o1dWs&usp=sharing_eid&ts=575887d2&tid=0B0t85eKdM5oDLUFMcF8yd2hKNmc
- **Sample videos** from Cohort 3 are available for your reference at https://drive.google.com/drive/folders/0B1d1Y4yUsv8mbEdqLWVTWDlQaTQ?usp=sharinghttps://drive.google.com/folderview?id=0B0t85eKdM5oDRmlUaVg2S1o1dWs&usp=sharing_eid&ts=575887d2&tid=0B0t85eKdM5oDLUFMcF8yd2hKNmc

https://drive.google.com/folderview?id=0B0t85eKdM5oDRmlUaVg2S1o1dWs&usp=sharing_eid&ts=575887d2&tid=0B0t85eKdM5oDLUFMcF8yd2hKNmc

Suggestions

- Introduce yourselves and the lab you represent. Pan the camera around your office or research space so that we can see where you work.
- What scientific disciplines are you working in?
- When you started Energy I-Corps, what was the most important thing you thought you would have to do to be successful in the program? How do you feel about that now?
- Thinking back across the program, who was the most interesting customer you met and where did you meet them? What happened to make them the most interesting customer?
- Now that Energy I-Corps is over, what was the most surprising thing you learned during the program?

Thursday, April 20, Graduation Day

Detailed Course Schedule

7:45 - 8:30am	Breakfast	
8:30 - 10:00 am	Final Team Presentations	6 Teams - 15 minutes each (1-2 min video, 10 min presentation, 5 min faculty remarks)
10:00 - 10:15 am	Break	Break
10:15 - 12:00 pm	Final Team Presentations	7 Teams - 15 minutes each (1-2 min video, 10 min presentation, 5 min faculty remarks)
12:00 - 12:30 am	Guest Speaker	Guest Speaker (DOE)
12:30 - 1:30 pm	Lunch	
1:30 - 2:00 pm	Panel Session	Where do you go from here? Next steps on defining and developing your commercialization plan and funding strategy. Q&A session.
2:00 - 2:30 pm		Graduation!