Overview & Approach
Center for Advancing Innovation – Mission

Due Diligence – Select the Best Federally Funded Inventions

Commercialization Strategy
Startups & Industry

Maximize Commercial Potential
Operators & Management Talent

CAI Overview

Core team of 20. Leader 24+ yrs of experience. Evaluated 175K+ inventions; 120+ high profile engagements resulting in $210B profit

Key Assets: Due diligence trade secrets; Award-winning Challenge-Accelerator

Established: 21 federal labs partnerships; 24K inventions; first-of-a-kind startup challenge model

RESULTS: Launched 80 companies; 2000+ jobs
Unprecedented media attention/recognition;
Numerous Keynotes and Panels on innovation

Prestigious Awards from HHS, FLC, Challenge.gov
FCSC Challenge Overview

Creating 100 Startups to Drive Innovation in Cancer

What is it? A start-up challenge featuring cancer prognostics, vaccines, diagnostics, therapeutics, and devices developed by federal labs, hospitals, and universities.

Challenge Goal: Reduce the burden of illnesses that have the highest economic cost and the most negative impact to quality-of-life to cancer patients. Lower the cost of current treatments and discover novel ways to manage cancer-related illnesses.

Challenge End Point: 100 new startups launched with seed funding and licenses in the field of cancer.
The Laura and John Arnold Foundation’s core objective is to improve the lives of individuals by strengthening our social, governmental, and economic systems. LJAF is providing $1.2 million in funding for the orchestration of the challenge.

MedImmune/AstraZeneca partnered with CAI to provide additional funding and advisory. Exceptional startups could be targets for funding, invitations to a MedImmune pitch day, and advisory support.

NCI partnered with CAI to launch the Neuro, Breast Cancer, and Nano Startup Challenges and are one organization out of many providing inventions.

Judges and Advisors (Cumulative Challenges)
Startup Challenge Journey

01 BREAST CANCER CHALLENGE 11 STARTUPS

02 SCALE CHALLENGE MODEL 2X NEURO STARTUP CHALLENGE 22 STARTUPS

03 PARTNER WITH ASTRAZENECA NANOTECH CANCER CHALLENGE 13 STARTUPS

04 EXTEND MODEL TO NASA - SPACE RACE 15-20 STARTUPS

05 BOLT ON FUND

06 COMMERCIALIZE TOP 1% OF INVENTIONS
CAI Accelerator Impact – Process Flow

Step 1: Find the Best Inventions

Step 2: Perform Due Diligence on Portfolio

Step 3 & 4: Crowdsourse Multi-Disciplinary Teams around Inventions; Create Entrepreneur Support Ecosystem

Step 5: CAI Accelerator Training Model

Step 6: Accelerator Spin-Outs Aligned with Industry Partnerships

Step 7: Inject Seed Funding

Step 8: Support Startups into Late Stage Investing

Universe of Inventions
Trade Secret Due Diligence Models

Filters

Portfolio

Quality of Applications Supporting Processes

Technical Quality

Portfolio Level Action Options

- Retire
- Restructure R&D
- Reprioritize
- Select

Medical/Scientific vs. Attractiveness

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Cancer Technology Requirements

• **Scope of the Challenge:** Inventions must have an application in the field of cancer (therapeutics, diagnostics, devices, prognostics, et al.)

• **Invention Status:** Invention must be unencumbered by other licensing agreements and co-ownership; technologies should be made available exclusively for licensing

• **Patent Protection**: There must be some kind of patent protection; there should be no major patent risks

• **Development Stage**: The Challenge expects any inventions to at least have a valid proof-of-concept or be in a pre-IND stage

• **Inventor:** Must be willing to have their invention licensed

*Exceptions to the above concerning Patent Protection and Development Stage can be made with a strong recommendation from the TTO*
How Does our Challenge-Accelerator Work?

CAI identifies commercially-viable inventions and crowdsources talent from around the world.

Letter of Intent - Teams form and select inventions. Teams apply to enter challenge.

Elevator Speech - Teams deliver elevator speech and executive summary.

Business Plan - Teams write business plans and pitch to world class panel of judges.

Winning Teams become founders of startup, negotiate license & raise seed funding.

12 Month Intensive & Disciplined Training

Planning
Engage Stakeholders, plan approach and identify key objectives.

Invention Selection
Form team and select invention.

Mentorship
Paired with seasoned exec level industry, business/technical experts.

Tailored Training Curriculum

Elevator Speech
2 minute video with executive summary.

Business Plan and Live Pitch

Winners and Finalists Selected

Teams Enter through Letter of Intent, Resumes, etc.

STARTUPS

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Challenge Accelerator Design

**Invention Topics:** Commercially viable cancer inventions, all therapeutic areas, and all technology types (diagnostics, therapeutics, devices, vaccines, etc.) – aligned with industry and investor research focus

**Cross-Research Institutes:** Federal labs (NIH, DOD, etc.), universities, hospitals, cancer research institutes etc.

**Location:** Challenge is orchestrated virtually, anywhere in the world

**Participants:**
- Team: Global; participants must be 18 years of age and must represent one of the following disciplines: business, scientific/medical, entrepreneurship, legal, engineering, and/or computer science
- Mentors, Judges and experts from industry, academia, foundations, investor groups: 80+ mentors, 80+ advisory experts, 300 judges
- Inventors provide two webinar sessions

**What Do Teams Get:**
- License with startup friendly agreements: no/lowered upfront payments, deferred or reduced milestone and patent reimbursement; royalties to be set per invention
- Prize Money of $2K – Potential of additional seed funds (pending partnerships)
- Access to world-class mentors and accelerator training

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Challenge Timeline

*FCSC Opens for Entry August 1st!*

**Phase 0: Enter Challenge Aug 1st 2017**
- Teams submit proposed members, Select Invention, and accept CDA

**Phase 1: Elevator Speech Oct 18th 2017 - Jan 19th 2018**
- Teams develop a 2 minute elevator speech video and a 350 word executive summary

**Phase 2: Business Plan Jan 20th – May 31st 2018**
- Teams develop a 10 page business plan accompanied by a financial model and 20 minute live pitch

**Phase 3: Start-up June 1st - Aug 31st 2018**
- Teams launch their startup; raise capital and negotiate a license to the invention

- **Aug 1st**: Open challenge for entries
- **Rolling acceptance until due date of elevator speech**
- **Dec 29th**: Due date for elevator speech and executive summary
- **Dec 30th - Jan 13th**: Public voting
- **Jan 19th**: Announce semi-finalists
- **May 6th**: Due date for business plans
- **May 7th - 18th**: Live pitches
- **May 31st**: Announce finalists and winners
- **Bi-weekly milestones for teams – schedule to be outlined**
- **Aug 31st**: Announce startup medal of honor awards
Value Proposition for Teams

ACCELERATOR TRAINING
Learn about business planning and strategy from our world class consulting experts

EXPAND YOUR NETWORK
Network with participants from various branches and communities of the industry

SUPPORT AND MENTORS
Receive personalized feedback, advice, and guidance from our advisors and mentors

MEDIA COVERAGE
Receive unprecedented media attention from news outlets, journals, and the Whitehouse

PRIZES AND FUNDING
Win thousands in Cash Prizes and potential to pitch for additional startup seed funding

STARTUP A COMPANY
Start a new career and join the ranks of the next generation of technology entrepreneurs
Testimonials

Startups from Prior Challenges

Participating in the Neuro-Startup Challenge these past few months has broadened the horizons of each team member of NeuroCognetix, and inspired new goals and desires for commercializing new technologies through successful startup businesses. The Challenge provided an interesting learning experience and a compelling opportunity to interact with accomplished business leaders, NeuroCognetix.

The Neuro Startup Challenge originally offered us an avenue to learn about Biotechnology and Small Businesses through a hands-on experience. We were able to apply our different backgrounds to start a business. However, by the end, the challenge offered us something so much more. With their mentoring and relationships, the Neuro Startup Challenge gives EncepHeal Therapeutics the opportunity to help over 22 million people affected by substance abuse, many of which, do not have options when it comes to FDA treatments, EncepHeal.

The Breast Cancer Startup Challenge (BCSC) has truly been the greatest experience of my academic and professional career. I have been successful in many academic competitions in the past, however the BCSC has set up teams for success unlike any other competition... Going forward, we should all look forward to the foundation of many great startups from similar CAI and NIH Startup Challenges, OncoLinx.

I feel that the Breast Cancer Startup Challenge (BCSC) is one of the most well-organized start-up challenges conducted. Right from initial selection of participating teams until announcement of winners and subsequent start-up mentorship, at each step, Rosemarie and her team represent clarity of vision, structured planning and near perfect implementation, Heragen.
Awards and Notable Mentions

**Challenge.gov**

Best in Business Plans/Entrepreneurship

https://www.challenge.gov/challenge-gov-celebrates-five-years-of-open-innovation/

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**HHS IDEA LAB**

Secretary’s Pick Award in Innovation

https://www.federallabs.org/index.php?tray=award_detail&cid=FLCawrd1221&tid=1FLtop38

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**The Breast Cancer Startup Challenge**

National Cancer Institute (NCI)

Excellence in Technology Transfer

https://www.federallabs.org/index.php?tray=award_detail&cid=FLCawrd1221&tid=1FLtop38

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**White House Articles**

**FACT SHEET: Celebrating President Obama’s Top 10 Actions to Advance Entrepreneurship, and Announcing New Steps to Build on These Successes, recognizes the Breast Cancer Startup Challenge under #6**

In celebration of National Entrepreneurship Month, the Administration released a Top 10 list of President Obama’s most significant specific actions to promote American entrepreneurship, as well as announced new efforts to build on these successes.

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**IMPACT REPORT: 100 Examples of President Obama’s Leadership in Science, Technology, and Innovation**

The Breast Cancer Startup Challenge is recognized by the White House in "IMPACT REPORT: 100 Examples of President Obama’s Leadership in Science, Technology, and Innovation" under #36 of 100.
Three White House Briefings in 2016: Advancing innovation and updates on CAI challenges and startups.

White House Articles

• Celebrating President Obama’s Top 10 Actions to Advance Entrepreneurship - recognizes the Breast Cancer Startup Challenge

• "IMPACT REPORT: 100 Examples of President Obama’s Leadership in Science, Technology, and Innovation"

• Applying the Innovation Toolkit to Bring Cancer Nanotechnology Inventions to Market
Article about the recent Nanotechnology Startup Challenge in Cancer

• Celebrating National Entrepreneurship Month
Article features the White House’s support of a number of activities focused on entrepreneurship and innovation; Features the Breast Cancer Startup Challenge and Neuro Startup Challenge

• From Lab to Market: Accelerating Research Breakthroughs and Economic Growth
Breast Cancer Startup Challenge Featured in an article highlighting the federal labs efforts and success in driving technology from Lab to Market

• Startup America Going Strong at Three Years
Presidential Memorandum directing all Federal agencies to accelerate high-growth entrepreneurship. CAI’s Startup Challenges are featured
<table>
<thead>
<tr>
<th>Publication</th>
<th>Keynote / Panel</th>
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<tbody>
<tr>
<td><strong>GAO</strong></td>
<td>2016 Government Accountability Office Study&lt;br&gt;CAI and our challenge model was highlighted in a study to identify open innovation strategies to address complex and cross cutting challenges facing the federal government</td>
</tr>
<tr>
<td><strong>Springer Open</strong></td>
<td>2016 <em>Cancer Nanotechnology</em> (Springer Open) Article&lt;br&gt;Springer’s <em>Cancer Nanotechnology</em> journal promoted the launch of the Nanotechnology Startup Challenge in Cancer by publishing a peer-reviewed article, authored by Rosemarie Truman and Dr. Cody Locke (CAI)</td>
</tr>
<tr>
<td><strong>Nano.gov</strong></td>
<td>2016 National Nanotechnology Initiative Strategic Plan&lt;br&gt;CAI’s Nanotechnology Startup Challenge in Cancer was outlined in the National Science and Technology Council Committee on Technology’s Strategic Plan for the commercialization of government research</td>
</tr>
<tr>
<td><strong>Space.com</strong></td>
<td>2016 Space.com Article&lt;br&gt;Space.com promoted CAI’s SPACE RACE startup challenge with NASA in their article “To the Moon! NASA Contest Kick-Starts Innovative Space Tech”</td>
</tr>
<tr>
<td><strong>NASA.gov</strong></td>
<td>2016 NASA.gov Article&lt;br&gt;NASA.gov promoted the launch of the SPACE RACE startup challenge with an article on their homepage</td>
</tr>
<tr>
<td><strong>The Washington Post</strong></td>
<td>2015 <em>Washington Post</em> Article&lt;br&gt;Article about CAI bridging government and start-up community was featured in the Small Business Section</td>
</tr>
<tr>
<td><strong>WIRED</strong></td>
<td>2014 <em>WIRED</em> Article&lt;br&gt;Article featuring CAI’s first competition, the Avon Foundation-supported Breast Cancer Startup Challenge</td>
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Bi-weekly Information Sessions
Learn More from CAI’s Program Directors

Information Sessions:
Bi-weekly THURSDAYS,
5:00 PM EST
Second and Fourth Thursday of Every Month
Until September 1st 2017

http://goo.gl/gT0Lmg
## Roles you Can Play

<table>
<thead>
<tr>
<th>Role Name</th>
<th>Responsibility</th>
<th>Time Commitment</th>
<th>Phase</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambassador</td>
<td>Organize Regional Ecosystem - Receive Equity in Startups</td>
<td>4 Hours/Month</td>
<td>All Phases</td>
<td>July ’17-May’18</td>
</tr>
<tr>
<td>Team Participant</td>
<td>Prepare Deliverables; Compete for Funding and License(s) to Invention(s)</td>
<td>20 Hours/Week</td>
<td>All Phases</td>
<td>Sept ‘17 – Aug ‘18</td>
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<tr>
<td>Invention Selection Committee Member</td>
<td>Help to Select Inventions to be Offered in Challenge</td>
<td>Variable</td>
<td>Phase 0</td>
<td>May’17 – Jun ’17</td>
</tr>
<tr>
<td>Cheerleader</td>
<td>Help Spread the Word to Recruit Team Participants</td>
<td>Variable</td>
<td>Phase 0</td>
<td>May’17 – Jan ‘18</td>
</tr>
<tr>
<td>Mentor</td>
<td>Coach Teams Related to a Select Invention</td>
<td>2-4 Hours/Month</td>
<td>All Phases</td>
<td>Oct ‘17 – ongoing</td>
</tr>
<tr>
<td>Advisor</td>
<td>Coach All Teams Related to a Specific Topic</td>
<td>1-2 Hours Total</td>
<td>Phase 1 or 2</td>
<td>Sept ‘17 – Mar ‘18</td>
</tr>
<tr>
<td>Judge</td>
<td>Evaluate All Teams Related to Each Selected Invention</td>
<td>8 Hours/Invention</td>
<td>Phase 2</td>
<td>May’18</td>
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<tr>
<td>Sponsor</td>
<td>Sponsor Events</td>
<td>Variable</td>
<td>Phase 3</td>
<td>Aug ’17 – Aug’18</td>
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Interested?

Sign-up for More Information

Visit our Website at:
http://www.freedomfromcancerchallenge.org/interested.html

Sign up for more info on our form: http://goo.gl/gT0Lmg

What you can do now:
1. Visit our past challenges for more information (below)
2. Start planning your schedules for August
3. Tell your friends and colleagues about the Challenge
4. Start looking for teammates; seek industry, academic, and research advisors for your team

The Center for Advancing Innovation

Rosemarie Truman| Founder and CEO
Jonathan Lui | Managing Director

Jonathan’s Cell: (972) 740-3615
Jonathan@thecenterforadvancinginnovation.org
twitter.com/centerinnovate
http://www.freedomfromcancerchallenge.org

http://www.neurostartupchallenge.org
http://www.nscsquared.org
https://www.space-race.org
## Example Success Stories

<table>
<thead>
<tr>
<th>Targeted Cancer Therapies</th>
<th>Batten’s Disease Therapy</th>
<th>Cancer Diagnostic</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONCOLINX</td>
<td>Circumvent Pharma</td>
<td>ANGIO360 Diagnostics LLC</td>
</tr>
<tr>
<td>Breast Cancer Startup Challenge Winner</td>
<td>Neuro Startup Challenge Winner</td>
<td>Neuro Startup Challenge Winner</td>
</tr>
<tr>
<td>$20MM Valuation</td>
<td>$5MM Valuation</td>
<td>$20MM Valuation - First sale 2017</td>
</tr>
</tbody>
</table>

- Won MassBIO, MassChallenge & Rice Business Plan Competition
- Received $1 million in funding for winning 43North Competition
- 18 agreements Pharma&Academia
- Top 30 under 30, TEDMED
- Products tested in space (ISS)

- OxBridge/SR One OneStart Finalist
- Received orphan drug indication
- Expertise in medicine, toxicology (INDS), regulatory affairs
- Recruited VP, Merck Veteran
- Top 5 percentile SBIR Grant

- “Best Pitch”, Healthcare Innovation
- Top 6 “Startups to Watch”
- Finalist, Wisconsin Governor’s Competition; WI Innovation Award
- Non-dilutive financing raised
- PoC: Human (Completed)
Oncolinx: Team Progress

- Winner of Breast Cancer Startup Challenge by the National Cancer Institute (NCI)
- Awarded grants from Avon Foundation for Women, NASA/Center for the Advancement of Science in Space (CASIS), and the Horizon 2020 Program (UK)
- Winner of 43North Competition, $1 Million Grand Prize
- Winner of MassChallenge & MassBio 2014 Startup Accelerators
- Winner of the Rice Business Plan Competition
- Raised seed financing, currently raising a bridge round
- Partnered with 14 pharma partners all over the world
- Partnered with 6 academic labs all over the world
- Offices in Boston and London
- Closed Startup Exclusive Option License Agreement with the NCI
- Showcases: TEDMED, World ADC Summit, Engage Forum Tokyo, Protein & Antibody Engineering Summit (Shanghai & Boston ’15)
Circumvent Pharma: Team Progress

- 2015: Received Orphan Drug Designation (FDA)
- 2015: Winner of the Neuro Startup Challenge (Heritage Provider Network, Center for Advancing Innovation, and NIH)
- 2016: Semi-Finalist in OneStart Accelerator
- 2016: Informal Pre-IND Meeting with FDA
- 2016: Submitted SBIR Application
- Recruited top medical expert as co-PI
- Recruited INDS (ex-Pfizer) toxicology specialists
- Recruited RareMoon regulatory consultants
- BDSRA (patient org) Letter of Support
- 2016: Recruited VP Chemistry, Merck Industry Veteran
- 2016: Conference Attendance
  - JP Morgan (SF)
  - World Symposium Lysosomal Storage Disease (San Diego)
  - CLN1/CLN2 Workshop (Bethesda)
  - BIO (upcoming, SF)

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Angio360 Diagnostics: Team Progress

- Winner of the Neuro Startup Challenge by the National Cancer Institute (NCI)-2015
- Winner of the Best Pitch for the Healthcare Innovation Pitch event sponsored by Bridge to Cures-2015
- Phase 3 Finalist in the ongoing Wisconsin Governor’s Business Plan competition-2016
- Nominated for the Wisconsin Innovation Award-2016
- Created partnerships with the University of Wisconsin-Madison School of Veterinary Medicine and the Froedtert/Medical College of Wisconsin Hospital System
- Raised pre-seed financing to complete proof of concept research
- Completed human proof of concept research
- Initiated veterinary canine proof of concept
- Negotiated Exclusive Evaluation License with the NCI
## Expanded Challenges Every Year

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<tbody>
<tr>
<td><strong>Entries &amp; Teams</strong></td>
<td>Teams Accepted</td>
<td>54</td>
<td>29</td>
<td>71</td>
<td>46</td>
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<tr>
<td></td>
<td>Winning Teams</td>
<td>N/A</td>
<td>N/A</td>
<td>16</td>
<td>12</td>
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<tr>
<td><strong>Team Strength</strong></td>
<td># People</td>
<td>406+</td>
<td>509+</td>
<td>~1090+</td>
<td>460+</td>
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<td><strong>Mentors/Judges/Advisors</strong></td>
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<tr>
<td></td>
<td>70+</td>
<td>60+</td>
<td>147+</td>
<td>17</td>
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<tr>
<td><strong>Startups Created</strong></td>
<td>15</td>
<td>10</td>
<td>22</td>
<td>11</td>
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<td><strong>Direct Job Creation</strong></td>
<td>500+</td>
<td>300+</td>
<td>727</td>
<td>478</td>
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<td><strong>Valuations</strong></td>
<td>TBD</td>
<td>TBD</td>
<td>$5-25MM</td>
<td>$2-20MM</td>
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<td><strong>Example Successes</strong></td>
<td>TBD</td>
<td>TBD</td>
<td>Circumvent &amp; Angio360: 3 Years to Exit</td>
<td>Oncolinx: 5 Years to Exit</td>
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