**Motivation:** To spark innovation in nuclear energy we must teach students *how to innovate*.

**Outcomes:** Attendees will:
- Leave with the tools to progress through opportunity recognition, idea generation, idea refinement, and idea execution themselves (approach to innovation)
- Have applied this process to a relevant problem and gotten feedback on their work from companies, technical experts, and potential funders (execution of innovation)
- Learn about technical aspects of nuclear innovation needs (can the idea work?)
- Learn about non-technical considerations in the nuclear space (can the idea work in reality?)

**Program:** From August 1-12, 2016 we will host a two week pilot program at UC Berkeley where smart students are trained in a variety of skills essential to innovation, including areas particular to nuclear energy, while executing a team design project. This summer will only welcome exceptional graduate and undergraduate students. The idea is to begin action, learn from experience, and build an expanded, six to eight week curriculum to be launched in Summer 2017. We intend to also expand to have opportunities for professionals as well as students.

We are collaborating with the Sutardja Center for Entrepreneurship & Technology's Berkeley Method of Entrepreneurship program (BMOE) to lead the entrepreneurship and innovation sessions, while experts will lead sessions in nuclear-specific topics, including technology development, legal and regulatory issues, and financing. In addition, a list of contacts from inside and outside the nuclear industry will be available to assist students and answer questions they have about their design projects (see below).

**Attendees:** The program is aimed at any students with an interest in the development of advanced nuclear energy designs. We are recruiting engineering students in nuclear and other departments, students of nuclear physics or technology, and non-technical students in economics, policy, communications, journalism, and design. These students should be in graduate programs or their last two years of undergrad.

**Content:**
Prelude: Prior to the program (mid-July) we will send attendees reading material / videos to start prepping them for generating ideas. We will ask them to brainstorm so they arrive with project ideas.

Intro: At the program outset a variety of nuclear energy companies will present about
a) how innovative ideas were incorporated in their technology,
b) general areas in nuclear where new ideas and innovation are needed most, and/or
c) specific challenges they are facing where innovation is needed immediately.
This opening context will inform and inspire the design projects participants complete during the program. More concretely, these ideas can either be direct calls for student projects or can deeply inform student projects.

Meat: Following this, participants will have specific training in modules such as:
- Entrepreneurship:
  o Opportunity recognition
  o Idea development and execution

- o Legal issues and nuclear regulation
- o Political landscape and global context
- o Investor outreach and relationship cultivation; public outreach
- o Intellectual property protection & industry cooperation tradeoffs
- Technical:
  - o Non-LWR technology
  - o Experiment design
  - o Design choice
  - o Cross-cutting technology needs

Approximately one half of time will be spent on the content above. The remaining time will be spent putting lessons to immediate use through team design projects.

Completion: Teams will present their designs at the program's conclusion to an audience including company representatives, potential private investors, technical experts, relevant NGOs, and Department of Energy program managers. There will be judges and a cash prize. This will be a half-day session followed by a reception.

Projects:
- Teams will be in groups of five. For the pilot we will obtain information about areas of interest ahead of time and establish groups in advance.
- Projects will be completely determined by the students; part of the point is to see what the students come up with themselves.
- Industry mentors will be available to:
  - o Give impactful project ideas to the students,
  - o Provide context so they can adapt ideas they came with, and
  - o Work with the students throughout the program.
- We will provide students with reading material ahead of time so they can start generating ideas before the program. This may include company-seeded ideas.

**Cost:**
We will provide room and board for all attendees. We anticipate a $200 registration fee to confirm your spot if you are selected to participate. You are responsible for getting yourself to and from Berkeley's campus (that is, we will not fund travel costs).

**Applications:**
Applications are due May 11, 2016 via the Bootcamp website. They require a resume/CV, faculty reference contact information, and a 500 word essay answering the question "What can innovation bring to nuclear energy, why is it needed, and how will you make sure it happens?"

Please contact nuclearinnovationbootcamp@gmail.com with questions. Additional information is available online: http://www.nuclearinnovationalliance.org/bootcamp.