



## Community Internship Collaboration

Fall, 2017 Business Application

Deadline: August 21, 2017

UNM-Los Alamos, Los Alamos High School, Los Alamos National Laboratory, Los Alamos National Security, and the Small Business Development Center partnered in 2015 to launch a new workforce development program providing college undergraduates and high school juniors and seniors internship opportunities with small businesses in Los Alamos. The program gives interns the opportunity to work in a local business, learn from their experience at work and in the classroom, and earn an hourly wage paid primarily by the program. Business mentors provide meaningful work experiences to eager students while teaching, training and coaching them.

Internships must be focused on the students completing a specific project or projects for the businesses, rather than daily work tasks. Projects may include such things as: creating a presentation; performing research and documenting it; creating a survey for customers; or planning a project or event. Businesses should assign a mentor to the intern, and mentors are expected to work alongside interns to teach and train them and give them the necessary tools and knowledge needed to complete their project(s). Interns are not intended to replace other employees. There will be a mandatory evening workshop for business mentors in August at UNM-LA (date TBC). Mentors must attend the workshop to be considered for an intern this semester.

The students will be paid hourly by the program for up to 60 hours of work (repeat clients may be asked to make a small donation to the program). We ask that the work is spread out throughout the program, as students will also be learning in a classroom setting to augment their learning at work.

To be considered for a student to intern, please fill in the form below and send via e-mail to [cic@unm.edu](mailto:cic@unm.edu). For questions, contact Laura Loy at (505) 695-9666. Thank you for your interest in our students for your internship opportunities, and we look forward to receiving your application!

### Fall, 2017 Schedule for Businesses:

- |                             |   |
|-----------------------------|---|
| Aug 21, 2017                | Business applications due   |
| Aug 28, 2017                | Mentor Workshop (TBC)– Mandatory mentor workshop at UNM-LA              |
| Aug 28, 2017                | Businesses receive resumes of students who applied for their internship |
| Aug 28- Sept 1, 2017        | Businesses interview candidates   |
| Sept 5, 2017, 10 am         | Deadline for businesses to submit ranking of candidates                 |
| Sept 6, 2017                | Business/intern pairings announced                                      |
| Week of September 11, 2017- | Interns begin working at businesses                                     |

The Community Internship Collaboration (CIC) is a joint partnership of the Los Alamos National Laboratory, Los Alamos National Security, LLC, UNM-Los Alamos, Los Alamos High School, and the Small Business Development Center. CIC was established to fill an employment gap in the community and expand partnerships between the Laboratory, small business owners, and schools. The program's goals are to provide meaningful work experiences for students, meet area workforce needs, and to develop the future workforce for our community, the region, and the Laboratory. Learn more at [losalamos.unm.edu/community/CIC.html](http://losalamos.unm.edu/community/CIC.html).

December 12, 2017, 4:30-6:30pm – Student presentations (Mentors highly encouraged to attend)  
 December 15, 2017 – Program ends

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Fall, 2017

Internship Posting

<b>Organization name</b>	Specifica Inc.
<b>Mentor/Contact name</b>	Cindy Budge, Sara D'Angelo
<b>Address</b>	100 Entrada Dr, Los Alamos, NM 87544
<b>Phone number</b>	(505) 431-0065
<b>E-mail address</b>	<a href="mailto:cbudge@specifica.bio">cbudge@specifica.bio</a> ; <a href="mailto:sdangelo@specifica.bio">sdangelo@specifica.bio</a>
<b>Organization website</b>	<a href="http://www.specifica.bio">www.specifica.bio</a>
<b>Describe your organization</b>	Specifica is a biotech company funded in 2016 by Dr Andrew Bradbury, a world renown expert in antibody technologies and former LANL scientist. Specifica provides recombinant antibody services to other biotech companies and Pharma. Antibodies are complex proteins primarily produced by the immune system to protect the body from infections. In recent years, antibody based drugs have been developed and are used in the clinic for the treatment of autoimmune diseases and cancer.
<b>Internship title</b>	Research Assistant
<b>Specific days/hours (if applicable)</b>	Preferably 2-3 consecutive hours for 2 consecutive days every week.
<b>What will the student learn from the internship?</b>	The student intern will learn basic molecular biology techniques (PCR, gel electrophoresis), DNA sequence analysis, basic principles of antibody engineering, as well as good laboratory practices and time management.
<b>What does your business need that a student intern can impact?</b>	Specifica is seeking a reliable student that can advance a line of research that, if successful, will be applied to antibody library construction projects in 2017.
<b>What project(s) will the intern work on?</b>	The project title is "Assessment of primer specificity for V domain amplification". The project is aimed at verifying if defined antibody genes can be amplified from human donors with high specificity. The amplification specificity has never been assessed in the context of recombinant antibodies and would provide valuable insights for the construction of future antibody libraries based on rational design.
<b>What skills are required for this internship?</b>	The intern will be taught good laboratory practices and basic molecular biology techniques. The ability to work in a fast pace environment, in a team, to seek advice, and to maintain a clean workspace are pivotal to the success of the project.
<b>What final deliverables will the student produce?</b>	The student will assess the specificity of the antibody genes amplification from human cDNA comparing different conditions. PCR, cloning, sequencing and statistical analysis of a panel of 5-10 antibody genes will enable the student to

	<p>drive the decision making process for the design of future antibody libraries.</p> <p>Deliverables:</p> <ol style="list-style-type: none"> <li>1. Side-by-side PCR amplification of antibody domains with standard primers and chemically modified primers. Five to ten high quality PCR products are expected from each primer set.</li> <li>2. Purification of amplified domains</li> <li>3. Cloning of amplified domains in a DNA vector and transformation in bacteria to generate antibody gene-specific mini-libraries. Libraries should have <math>10^4</math> to <math>10^5</math> different transformed bacteria.</li> <li>4. Sanger sequencing analysis of 100 clones from each primer set and statistical evaluation of the amplification specificity</li> </ol>
<p><b>How would you describe the primary purpose of this project? (Select one)</b></p>	<p>Science (Biology, Molecular Biology, Antibody engineering)</p>