

Internship at the Joint Bioenergy Institute, California – Experience report

Period of time: 15.8.2015 – 17.2.2016, Berkeley, CA

My general impressions of the research stay abroad in California are that I highly recommend taking the chance of funded internships in the US. California and especially Berkeley is a place worth visiting. Berkeley displays a good combination of student city flair, world leading science institutes such as the Lawrence Berkeley National Laboratory (LBNL) and UC Berkeley, industry and startups and plenty of recreation areas, National Parks and the beautiful bay area. The food quality is impressive, since the awareness of healthy nutrition is emphasized in the San Francisco bay area. The public transport system is fairly good and plenty of places worth visiting are close by, which can be also reached by renting cars. Expenses for groceries are slightly higher than in Austria, while apartments are significantly more expensive. This is why scholarships such as the Marshall Plan Program are vital for enabling research stays in the US. Without the generous financing of this program, I would not have been able to sustain myself for this amount of time and it might not have been such a nice experience.

I highly benefited from the time spent in the states: I improved my English skills, developed new skills and confidence for working and living abroad, obtained a valuable insight in the field of biotechnology while working in a world leading bioenergy research institute and met interesting people from all across the world.

The Joint Bioenergy Institute (JBEI) is part of the LBNL and as mentioned a renowned research center in the fields of bioenergy research, synthetic biology and biotechnology. I highly enjoyed the time working there. The working environment is great. Safety is much more promoted than in other institutes, the work atmosphere is nice since people are very friendly, polite and cooperative. The institute is very modern, which allowed me to gain experience in working with robotics labs, next generation sequencing on an institute owned Illumina sequencing machine and bioinformatics skills in the weekly voluntary seminars. Talks from speakers of the industry, business, academia and science outreach gave additional interesting insights. The philosophy of JBEI is to give people everything they need to work as good as possible. I enjoyed having my personal desk, laboratory bench and computer, which gave me all the prerequisites to focus on my work. In my eyes, JBEI is a unique institute and my future plans are to go back for doing part of my PhD there. Therefore, I do recommended students who are interested in

biotechnology, bioenergy research or biochemistry / molecular biology to arrange an internship at this institute (<http://www.jbei.org/>).

During my internship, I worked within the group of microbial communities and collaborated with the fungal biotechnology group (Deconstruction Division). My status was research scholar and I was basically able to attend all the seminars and courses available. As part of the researchers, we have to give a presentation of our work progress every 6 months in a group meeting and we also receive one minor laboratory duty. JBEI and the LBNL are very active in public relation activities and it would have been possible to join that as well. My main task was to work together with a postdoc on the project I received the funding for.

Future Marshall Plan students, who want to go to Berkeley, need to be aware, that it was very hard to find a flat and that the average rent is about 900\$ a month. Moreover, one should look for bikes (I found bike and apartment here: <https://sfbay.craigslist.org/>) and arranging meetings before entering the US. The public transport is not as good as in central Europe and a bike is absolutely necessary, especially for visiting flats. Bikes are frequently stolen. Therefore a good lock is needed. Regarding mobile phones, I recommend using the plan from Ultra Mobile (<http://ultra.me/>) which is the cheapest version (offering internet and unlimited calls and text messages) which I am aware of when staying 4 or more months. The prices and the quality of groceries can vary significantly depending on where these things are bought. Therefore it is worth visiting different supermarkets first. I also recommend downloading a GPS based app for road trips, since car rentals and gasoline are both cheap.

Raphael Gabriel, Vienna 15.4.2016