Oregon Applied Sustainability Experience

2022 OASE Host Business Project Descriptions

**NOTE: Due to the evolving COVID-19 situation, all projects are subject to change or cancellation without notice. For the latest updates please check back frequently at https://seagrant.oregonstate.edu/OASE/ **

1. Imperfect Foods; Clackamas, OR
2. VIVID Stabilized Woods; St. Helens, OR
3. Pacific Seafood; Newport, OR
4. Oregon Kelp Alliance; Port Orford, OR
5. TE Connectivity; Wilsonville, OR
6. Boeing; Portland, OR

1. Imperfect Foods

Imperfect Foods is an e-commerce, direct to consumer grocer on a mission to end food waste and build a better food system. Imperfect Foods is a B Corp, and has committed to Net Zero Carbon Emissions by 2030 and TRUE (GBCI) Zero Waste at all Fulfillment Centers by 2025.

For more about our company and sustainability commitments please visit the following:
http://blog.imperfectfoods.com/blog-1/2021/3/14/our-commitment-to-being-a-net-zero-carbon-company-by-2030
http://blog.imperfectfoods.com/blog-1/how-we-calculate-our-environmental-impact

We are seeking an OASE Intern to support our upstream waste prevention projects listed below. The internship will directly support the company in reaching both of our sustainability commitments at our Clackamas facility through preventing waste from entering the facility, and minimizing the amount of plastic production required to support our business.

Projects goals and outcome

Imperfect Foods has a commitment to building a less wasteful world, promoting circularity and upstream waste prevention. Our core business function is to eliminate food waste through our sourcing model, which gives preference to foods that are in danger of being wasted, and we work to eliminate material waste in our supply chain simultaneously. Imperfect's implementation of material waste elimination issues are evidenced in our Packaging Return Program for more, see here: http://blog.imperfectfoods.com/blog-1/2021/5/21/how-we-built-our-packaging-return-program).

The internship initiatives described below will be designed for our Clackamas, OR facility (which serves customers throughout Idaho, Washington and Oregon), with the goal that the intern is able to deliver a successful project at the end of 10 weeks. The internship project will then be implemented across the entire US, at all of our six Fulfillment Centers.

OASE project details

The student will research and design partnership models to procure and incentivize low- and zero-waste products. The intern will identify 3-5 key waste reduction opportunities based on waste audit data and then propose one area to focus. For example, the students' work may include researching opportunities to source foods packed in Reusable Plastic Crates (RPC) as opposed to traditional cardboard boxes. This will require the student to become familiar with Imperfect Foods' sourcing model, propose a method of tagging RPC-packed foods, and strategize operational models to receive and return RPCs to the vendor. This would also include financial strategy to incentivize purchase of RPC-packed foods in partnership with RPC manufacturers and farmer partners.

The intern's primary project work will consist of the following:
1) Partner with the sustainability department and vendor partners to build a robust program for reusable packaging sourcing
2) Design systems which give preference in purchasing from those vendors who embrace zero waste goals and provide low- to zero-waste products or packaging
3) Work with vendors to eliminate non-recyclable packaging
The intern will be working daily, primarily remotely, with the Imperfect Foods Sustainability Team. The student intern will be responsible for coordinating across the company, working primarily virtually and through Slack and Google Suite. They will be asked to perform Excel or Google Sheets-based analysis tasks, attend meetings over Zoom and over the phone, and present their final project via a Zoom meeting with Leadership. Students will be provided with free access to all relevant technologies, as well as support for those technologies as needed.

Degrees/Skills identified by host

Engineering, Environmental Science/Sustainability, Physical science, Economics/Business
All majors are welcome to apply

Skills, experience, and knowledge needed for this internship are as follows:
Minimum qualifications:

- ability to work virtually
- familiarity with Slack, Google Suite, Zoom
- comfortable speaking directly with vendors

Other optional qualifications:

- familiar with Life Cycle Analysis
- familiar with systems design

Additional considerations

International students are eligible to apply
Student will occasionally (once, possibly twice through the internship) be expected to tour and/or work on site, COVID protocols apply
Housing NOT provided

2. VIVID Stabilized Woods

VIVID Stabilized woods is a small family business located in Deer Island, outside of St Helens, Oregon, owned and operated by Susan Curington and Les Dougherty, who are both artists in their own disciplines. They founded the company with the goal of providing high-quality raw wood products from the Pacific Northwest to woodworkers all over the world. VIVID carries that purpose further in pursuing the goal of introducing the world to the timeless beauty of stabilized wood, created using innovative technologies.

VIVID's product lines are nearly all sourced locally, centering around highly figured Big Leaf Maple, a species of wood that is found exclusively in the Pacific Northwest. Through stabilization, the wood is no longer subject to shrinking or cracking that you would experience from traditional raw wood. And, when stabilizing these woods, various dyes are used to create a plethora of stunning visuals that are sure to catch anyone's eye. In promoting artistic ideals and aesthetics, VIVID also helps to create new jobs in a market that is not only renewable, but gives back to the economy.

Project goals and outcomes

Better manufacturing products, better processes, better disposal of any wastes, source list for raw materials, possible new market for our byproducts

OASE project details

Research and recommend safe disposal of Cactus juice and Alumilite remnants, pre and post activation.
Research and implement better recycling method for above bottles
Find a new solution for disposal of dust from dust collector
Explore uses for scrap wood
Research better, more ecologically friendly resin products
Conduct energy efficiency review
Research and collate a list of sustainable wood suppliers
Formulate a plan for our scrap byproducts

Degrees/Skills identified by host

Environmental Science/Sustainability, Economics/Business, Forestry

Minimum qualifications:

- ability to conduct independent research
- creative thinker

Other optional qualifications:

- familiar with Life Cycle Analysis
- coursework in energy auditing

Additional considerations

International students are eligible to apply
Interns will have the opportunity to both work on site in Deer Island, OR and telework from home
Work schedule may be 2-3 days a week for 12 weeks
Housing NOT provided

3. Pacific Seafood

Founded in 1941 by the Dulcich Family, Pacific Seafood is a family-owned and operated company dedicated to providing the healthiest protein on the planet. Pacific Seafood manages all parts of the supply chain from harvesting/fishing to processing, and distribution in order to provide customers with fresh, sustainable, high-quality products. Pacific Seafood Group is headquartered in Clackamas, Oregon. We employ more than 3,000 team members across 41 facilities in 11 states. Visit www.pacificseafood.com to learn more. Pacific Seafood is focused on sustainability and conservation at all levels of its business operations.

Project goals and outcomes

Seafood processing requires a large amount of fresh water to sort, clean, and process raw product into finished product. Traditionally, the seafood processing industry was not focused on minimizing water usage, especially since the industry developed along shorelines and in areas of abundant water resources. Therefore, many processes, equipment, and methods employed at facilities have developed over time without water conservation in mind. This project seeks to investigate the current methodologies, practices, and equipment used in processing and sanitation activities to identify creative solutions to minimize water usage and increase sustainable business practices.

OASE project details

This internship is located out of Newport, Oregon and will work closely with engineering, value creation, management, and environmental health and safety team members to identify major sources of water use and implement creative programmatic and/or technical solutions to reduce consumption. Pacific Seafood's goal is to reduce water consumption as much as possible. This intern would allow Pacific Seafood to implement water reduction programs designed by a previous water conservation internship, identify water reduction opportunities at two new facilities, and set site-specific SMART goals for year over year water use reductions.

Degrees/Skills identified by host

Environmental/Mechanical Engineering, Environmental Science/Sustainability, Physical science, or related.

Minimum qualifications:

- excellent data collection and mathematical analysis
- strategic thinking
- creative problem solver
- self-motivated
- observant
- interpersonal communication
- comfortable working in wet and/or humid environments
- knowledge of and genuine interest in water conservation

Additional considerations

US Citizens only
Interns will have the opportunity to work on site in Newport and telework
When teleworking, a computer will be provided
Drug tests or other tests are required for access to the work location
Driver's license required, vehicle preferred but not required
Housing in Newport is provided by Pacific Seafood

4. Oregon Kelp Alliance

The Oregon Kelp Alliance (ORKA) represents diverse interests in kelp forest ecosystems, and includes commercial urchin divers, researchers, managers, conservationists, tribal members, tour guides, sport divers, chefs, and other community members in support of healthy kelp forests.

ORKA recently received a scientific take permit from ODFW to launch an experimental kelp forest restoration project at 6 sites from Cape Lookout to the North, to Macklyn Cove in Brookings to the South. This project culls sea urchins to promote kelp forest restoration, and includes surveys and monitoring in partnership with Reef Check Oregon. The Oregon Kelp Alliance is exploring other approaches to promoting kelp forest health in coordination with other groups engaged in similar work along the west coast, and around the world.

Although Pacific dulse can be successfully scaled and can support rapid growth of red abalone, research is needed to determine if Pacific dulse is a suitable fodder to stimulate gonad growth in purple sea urchins and if it can be accomplished in a cost-effective manner. Oregon Sea Grant has funded an experimental co-culture research project that is investigating the potential of such a co-culture of dulse and purple sea urchins.

Projects goals and outcome

Sea urchin and dulse co-culture is a potentially viable business model that can be used to develop marketable product from "waste" urchins taken from urchin barrens as part of kelp forest restoration projects. In order for this method to be economically and ecologically viable, the reduction of biological waste products, and elimination of viable fertilized gametes from discharged seawater will be essential. This project aims to address both of these problems and in the process, develop methods for addressing them as part of future facilities.

OASE project details

This project will be focused on experimental sea urchin/dulse (edible seaweed) co-culture and will aim to measure and mitigate/reduce biological contaminants resulting from sea urchin land-based mariculture/co-culture when fed cultivated dulse. The secondary project will involve using methods to eliminate viable fertilized gametes produced from cultured sea urchins. This will be important to the success of a commercial application as it will be necessary to avoid contributing to the purple urchin population in the area.

The intern will work as part of the experimental team, and be tasked with water quality monitoring at multiple experimental sites, and assist with installation and operation of equipment used to sterilize and/or filter gametes and biological contaminants prior to discharge.

The intern will work with other interns focused on various aspects of this experiment, and related work of the Oregon Kelp Alliance.

Degree/Skills identified by host

Environmental Science/Sustainability

Skills needed for this internship are as follows:
Minimum qualifications:

- Ability to gather biological samples and take precise measurements
- Ability to analyze numerical data and use Excel
- Ability to work in the field
- Ability to drive to field sites
- Ability to work independently, and as part of a team
- Ability to effectively communicate findings

Other optional qualifications:

- Prior experience with water quality monitoring
- Knowledge of sea urchin physiology, including waste production and reproductive cycle
- Knowledge of seaweed (dulse) physiology and growth parameters
- Gamete sterilization and/or filtration experience
- Comfort with working at study sites at commercial ports (Port Orford and Bandon)

Additional considerations

International students are eligible to apply
On-site shared housing will be provided at the Port Orford Field Station

5. TE Connectivity

Solutions that power electric vehicles, aircraft, digital factories, and smart homes. Innovation that enables life-saving medical care, sustainable communities, efficient utility networks, and the global communications infrastructure. For more than 75 years, we have partnered with customers to produce highly engineered connectivity and sensing products that make a connected world possible. Our focus on reliability and durability, our commitment to progress, and the unmatched range of our product portfolio enables companies large and small to turn ideas into technology that can transform how the world works and lives tomorrow.

Projects goals and outcome

Minimization/elimination of material waste will reduce our energy, water & wastewater usage, CO_2 emissions from manufacturing & transportation as well as reduction of discarded waste into landfills.

OASE project details

Develop a process map highlighting usage and disposal of material waste streams in the plant. Material waste is currently trucked to disposal company receiving areas in California, at great expense. Research and develop alternate disposal/recycling opportunities for waste closer to the plant, conduct return on investment analysis for proposed alternatives, and make the case to company leadership regarding disposal best practices.

Degree/Skills identified by host

Engineering, chemical engineering, sustainability

Skills needed for this internship are as follows:
Minimum qualifications:

- Strong analytical and independent research skills
- 3 years of Chemical & Mechanical Engineering

Other optional qualifications:

- completed coursework in Life Cycle Analysis
- Project Management

Additional considerations

International students are eligible to apply
Intern may work on site or remotely
Daily COVID health screening required
All PPE provided, including 2 COVID masks/day, safety glasses, gloves, and work boots
Housing NOT provided

6. Boeing

Boeing is the world's largest aerospace company and leading manufacturer of commercial jetliners, defense, space and security systems, and service provider of aftermarket support. As America's biggest manufacturing exporter, the company supports airlines and U.S. and allied government customers in more than 150 countries. Boeing products and tailored services include commercial and military aircraft, satellites, weapons, electronic and defense systems, launch systems, advanced information and communication systems, and performance-based logistics and training. Boeing Portland is part of the Commercial Airplane Fabrication Division. The plan supplies parts and sub-assemblies for all the current Commercial Aircraft.

Projects goals and outcome

1) A review of all hazardous waste streams will provide fresh prospective of the site's waste streams which could lead to waste reductions.
2) Sampling the assembly waste could allow some portion of assembly debris currently managed as hazardous waste to be designated as non-hazardous waste.
3) Working to reduce packaging will reduce the amount of solid waste that needs to be recycled, reclaimed, or disposed of as trash.

OASE project details

For the two hazardous waste projects, the intern will be responsible for researching and confirming waste designation, and the intern will be responsible for sampling and preparing the samples for testing by the laboratory, reviewing the data, then making recommendations for possible waste re-characterization. Site environmental staff will review these results. The packing reduction project will work with a cross functional team to develop and document the project with support from environmental staff.

Degree/Skills identified by host

Engineering, chemical engineering, chemistry

Skills needed for this internship are as follows:
Minimum qualifications:

- 3 years of physical science or engineering courses
- Good interpersonal skills

Other optional qualifications:

- technical skills to complete the laboratory testing
- technical skills to help to interpret the testing results
- ability to draft the laboratory report

Additional considerations

US Citizens only
Combination of on site and teleworking
Computer and phone provided
Intern must pass a background check
Safety toed shoes required for access to the factory (intern must provide)
COVID masks required in all areas of the facility
Housing NOT provided