Oregon Applied Sustainability Experience

2023 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. Boeing; Gresham, OR
2. Bold Reuse; Portland, OR
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1. Boeing; Gresham, OR

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

Boeing has two projects: 1) Water Use/Leak Detection/Reduction Project; and 2) undertake sampling of Boeing Portland's assembly debris to possibly re-characterize all or a portion of the waste stream using a visually based system that determines light, medium and heavy contamination. The first project will be used to better understand the major water uses and develop water reduction projects; and to monitor and validate performance of water reduction projects that are identified. The second project will be used to possibly re-characterize all or a portion of the waste stream, helping deliver it to a pilot area.

OASE project details

For project 1, the intern will review 20 new water meters (17 located on cooling towers and 3 on boiler makeup systems). Verify that they are recording properly and modify names and locations so that they are easily understood. For project 2, the intern will be researching and investigating different types of assembly waste, duplicate previous years testing, develop a sorting/segregation training and follow through to disposal.

For project 1, the intern could potentially determine what water uses might be "behavior driven" and remove or reduce them as projects. The intern will review numerous existing process and domestic water meters installed in the Boeing buildings (2014/2015 vintage); and verify that they are re-coding properly and modify names and locations so that they are easily understood.

For project 2 sampling the assembly waste could allow some portion of assembly debris currently managed as hazardous waste to be designated as non-hazardous waste. The intern will be responsible for researching and confirming waste designation, reviewing the data, then making recommendations for possible waste re-characterization. Site environmental staff will review these results.

The intern will receive basic hazardous waste training and safety Hazardous Communication training, Personal Protection Equipment use and selection, and possibly systematic problem solving.

Degrees/Skills identified by host

- Engineering; Environmental Science/Sustainability; Physical science; Economics/Business
- Research skills

- The intern should be self-confident and willing to work with others.

Additional considerations

US Citizens only.
The student would receive the standard orientation for employees that reviews Hazardous Communication, general production safety training, and area specific safety training. All persons entering the factory portion of the plant are required to wear safety shoes and safety eye wear (typically safety glasses). These are available for visitors and employees alike. Additional job specific items like hearing protection, face shields, goggles, cut resistant gloves, Tyvek suits, or chemical resistant gloves would be available for the intern if needed. **The intern will be responsible for their own safety shoes (safety toe). The applicant must be able to pass Boeing's background check.**
This is an in person position.

2. Bold Reuse; Portland OR

Bold Reuse is on a mission to end single-use waste by making reusable packing easy for all. We work with Small to Medium-sized businesses and Enterprise clients in the food service, grocery and hospitality industries to launch and manage reusable systems for foodware that reduce trash and packaging costs. Bold Reuse provides both service and software solutions that help our clients achieve their zero waste goals faster and more efficiently.

Project goals and outcomes

Bold Reuse would like the intern to provide a fresh perspective on their operating processes to identify opportunities to improve efficiencies and introduce innovations that would allow us to scale them to reuse operations effectively in Oregon and beyond.

The intern will help prevent and reduce pollution and waste throughout the entire operation so that they can minimize their environmental footprint while helping other organizations reduce theirs by facilitating reusable food service items in place of traditional single use ones.

OASE project details

The OASE intern will complete an inventory of all of Bold Reuse's current chemicals and cleaning and operating liquids/solutions. Once this is collected, the intern will research and suggest Safer Choice alternatives that can replace any products containing toxic or hazardous chemicals.

The intern's responsibilities would also include monitoring and assessing operations and suggesting changes or modifications that would lead to pollution prevention and waste reduction recommendations and a cost benefit analysis. The intern's suggestions and guidance for source-of-pollution reduction will be incredibly helpful to help meet their goals to create as little pollution as possible.

The intern would also identify any efficiencies within the processes and operations that would help with pollution and waste prevention. For example, the intern may be tasked with producing a best practices checklist.

Finally, as time allows, the intern may be asked to help with data collection regarding the entire operation but specifically concerning the Retail Reuse pilot program. The pilot program will test the feasibility of a closed loop packaging system with the hopes of reducing pollution and material waste. Data collection will be overseen by the full-time team at Bold Reuse, but assistance from the intern would be very helpful.

Degrees/Skills identified by host

Engineering, Environmental Science/Sustainability, Physical science, Economics/Business
Data analysis, reporting, familiarity with Google suite, strong written and verbal communication skills.

Additional considerations

Bold Reuse will provide any necessary Personal Protection Equipment and equipment training at no cost to the intern. Should any circumstances arise where the intern needs to pay for their own Personal Protection Equipment, they will reimburse them for all approved costs.

This position is primarily in-person though some work from home days are possible.
Housing NOT provided

3. Bridgetown Mushrooms; Tigard, OR

Bridgetown cultivates mushrooms in sterile grow chambers with plastic grow bags. This is the industry standard for large-scale specialty mushroom cultivation. On average, 1,500 plastic bags per week (or 78,000 bags per year) are used once and then disposed of as solid waste. The company has plans to double in production over the next year.

Bridgetown Mushrooms' mission states that sustainability is not optional and they are committed to restoring sensitive natural areas. Single-use plastic bags fall outside of our mission and they aim to find a solution in the future.

Project goals and outcomes

Bridgetown Mushrooms seeks to identify an alternative that eliminates waste, is sanitary, and cost- and time-effective. The solution also needs to be appropriate for the species of mushrooms that are being cultivated.

The solution will ideally be upstream with an alternative to single-use plastic grow bags, or downstream with an alternative to solid waste disposal of the plastic bags. There are difficulties included in both pathways. Changing practices upstream can alter the growth environment, production outcomes, and business model. Changing disposal downstream would require cleaning of plastic bags after use.

Potential outcomes would be the elimination of at least 78,000 single-use plastic bags per year, and a case study that can be shared with the specialty mushroom industry for broader adoption.

OASE project details

The intern will need to first understand the parameters of species-specific cultivation in order to determine appropriate solutions to single-use plastic bags. They will need to perform a literature review or interview experts in the field in order to determine alternative options that produce similar results - financially and biologically. They will need to perform a cost-benefit analysis, taking workflow, space, and labor into consideration. When looking at upstream alternatives, the student will need to take into consideration all aspects of production, including space, water usage, sterilization needs, staff, energy consumption, and more.

Degrees/Skills identified by host

Engineering, Environmental Science/Sustainability, Physical science

Student should be capable of:
-Learn about species-specific mushroom cultivation to provide informed solutions
-Understand business model in context of single-use plastic grow bags
-Literature review and expert interviews on alternative options to single-use plastic bags
-Research skills
-Comfortable performing outreach to experts in the field
-Understanding of cost-benefit analyses
-Bonus: Process/industrial engineering and automation
-Bonus: Mycology

Additional considerations

International students are eligible to apply
Remote work: intern will occasionally be expected to tour and/or work on site, COVID protocols apply
Housing NOT provided
Travel costs NOT provided

4. Bob's Red Mill; Milwaukie, OR

Bob and Charlee took a leap of faith when they opened Bob's Red Mill in a small, abandoned flour mill 40-plus years ago. As an employee-owned company, each and every one of the employee-owners has a vested interest in the company's future. Bob's Red Mill's commitment to wholesome foods means they're committed to nourishing a healthy planet, too. Their organic, Non-GMO Project Verified and Fair Trade Certified™ products are part of their mission to acknowledge their impact on the planet and foster responsible sourcing.

Projects goals and outcome

Bob's Red Mill ran a food waste reduction challenge and pilot last fall, and the results were recently published by World Wildlife Fund (https://paccoastcollab.wpenginepowered.com/wp-content/uploads/2022/12/PCFWC-Case-Study_Bobs-Red-Mill-Final.pdf). To build off of that program, for 2023 we are focusing on "scrap" (ingredients or packaging waste) reduction within operations, with a goal to reduce scrap by 10% by the end of the year. Scrap reduction is a strategic objective with support throughout the organization. Throughout the year, the scrap reduction team is working on creating baseline metrics, mapping sources of scrap, prioritizing reduction projects, and implementing gems and quick wins.

OASE project details

The intern will investigate "scrap" through all areas of the process - from receiving, to inventory, milling, packaging and distribution. This includes using continuous improvement tools such as A3, root cause analysis, and FMEA (Failure Mood & Effects Analysis).

The intern's role will include ensuring data collection is correct and efficient, being a data owner of data collected, analyzing the data, and working with production employees on collecting data. Other roles will be to participate in the Scrap Reduction Team and track projects via the Opportunity Register, working with production employees to implement scrap reduction projects, and working on employee engagement and education around scrap.

Degree/Skills identified by host

Engineering, Environmental Science/Sustainability, Continuous Improvement

-Familiar with continuous improvement/lean manufacturing concepts.
-Analytical thinking.
-Comfortable with working independently and approaching employees at all levels of the organization.

Additional considerations

International students are eligible to apply
On-site work
Housing NOT provided
Travel costs NOT provided

5. Fiskars/Gerber Blades; Portland, OR

Since 1939, Gerber has been a leading global supplier of activity-specific knives, multi-tools and problem-solving gear, built on the pillars of craftsmanship, innovation, and an unrelenting commitment to quality and service. Gerber wants to offer inspiring and disruptive alternatives for throwaway culture. Each link in Gerber's value chain is an opportunity for them to become better, more thoughtful, and more sustainable from an environmental, economic, and societal point of view. In an ongoing effort to protect the environment, Gerber is reducing the use of plastics and other harmful materials in its packaging. Gerber uses 100% recyclable kraft material, completely exposed products, molded pulp trays, and corrugated inserts, and reduced plastic and paper size on larger products.

Projects goals and outcome

Reduce waste to landfill. Zero landfill waste management. Zero Landfill initiative. Closed loop Recycling. Their goal is to be landfill free by 2035 and will need to reduce waste to landfill by 4 tons every year to meet this goal.

OASE project details

Research how other companies have reduced their waste to landfill and become landfill free. Investigate examples of waste prevention and processing related to Gerber's manufacturing operations. Can they turn waste into energy? Are there companies in the northwest that burn waste and make electricity? Identify waste streams in production, innovate ways to convert waste to be reusable or recycled. Investigate upcycle.

Intern would work closely with staff manufacturing engineers who have been key in reducing electrical usage, working with Energy Trust of Oregon, locating companies to purchase used equipment and an advocate of reducing waste to landfill.

Degree/Skills identified by host

Environmental Science/Sustainability
Analytical, communication and observation skills are key.
Create a data collection file (excel) for future use.

Additional considerations

Intern would work on-site, 7am to 4pm with one hour for lunch, 5 days a week.
Housing NOT provided

6. Pacific Seafood; Clackamas, OR

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.

Projects goals and outcome

The Sustainable Plastics and Packaging Intern will perform a plastics and packaging audit, identify actions to mitigate plastic use in the distribution center and generate creative solutions to minimize its use. They will explore alternative options for packaging design and materials and collate research on Extended Producer Responsibility Legislation.

The intern will need to research how plastics and packaging is used in their facility and investigate ways to change the processes to reduce plastic/packaging usage.

They want to reduce the overall use of plastic and packaging and reduce waste or recycle it in better ways.

OASE project details

• Collate research on Extended Producer Responsibility legislation
• Coordinate with procurement team to determine the variety of plastics and packaging used
• Identify areas in the process that use high quantities of plastic and generate creative solutions to minimize its use
• Explore alternative options for packaging design and material
• Implement plastic recycling programs in the distribution center
• Prepare project overview and present findings to executive leadership

The intern will work with the Environmental Health & Safety Department. The Supervisor has a background in business and sustainability and the team that has a strong technical background in environmental compliance. The intern will also work with their purchasing department who sources the packaging and plastic.

Degree/Skills identified by host

Engineering, Environmental Science/Sustainability, Physical science, Economics/Business

Creative and innovative thinking, analytical nature, previous projects with plastic and packaging are a plus.

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 NOT provided

7. TE Connectivity; Wilsonville, OR

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 the 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

Minimum qualifications:
- Strong analytical and independent research skills
- 3 years of Industrial & Mechanical Engineering Education

Other optional qualifications:
- completed coursework in Life Cycle Analysis
- Project Management

Additional considerations

Intern may work on site or remotely
All Personal Protection Equipment provided, including: safety glasses, gloves, and work boots
Housing NOT provided