

Research & Development Director

Cascadia Sustainable Aviation Institute

Location: Hybrid – Seattle Metropolitan Area, with regular travel to Paine Field/Snohomish County, WSU (Pullman), and national lab and partner sites

Position Summary

The Research & Development Director will own the research agenda of the Cascadia Sustainable Aviation Institute (CSAI), ensuring the Institute's research portfolio delivers measurable value to producers, partners, and the broader SAF ecosystem while directly advancing Cascadia's goal of 1 billion gallons of locally produced sustainable aviation fuel (SAF) by 2035.

Reporting to the Executive Director, this role will partner with technical partners, OEMs, technology providers, and SAF producers to translate CSAI's research into commercial progress, and will liaise with national laboratories, universities, and global R&D partners to build out a world-class SAF innovation center at Paine Field. The Director will work especially closely with Washington State University (WSU) — CSAI's anchor research partner and host of ASCENT, the FAA's SAF research center — and with the Cascadia Sustainable Aviation Accelerator (CSAA) to unlock new technologies and advance innovative technology solutions in support of the region's 1 billion gallon goal.

This role will carry a heavy early focus on technology commercialization of the core regional feedstocks (woody biomass, forestry residue, agricultural waste, seed oils, etc.), and will be expected to bring the technical judgment and partnership-building skill needed to move that pathway from the lab toward meaningful commercialization and de-risking.

This is currently structured as a part-time, joint appointment, or consulting role during CSAI's pre-Phase 2 period. Given the scope below, the initial mandate will prioritize research agenda-setting, the WSU partnership, and technical leadership on the feedstock pathway; team-building and expanded ecosystem representation are expected to scale up as CSAI's Phase 2 lab comes online. We anticipate this role converting to full-time upon Phase 2 lab completion, though this depends on funding and organizational milestones rather than a fixed date.

Key Responsibilities

Research Agenda & Strategy

The Research & Development Director will define and drive CSAI's research agenda.

- Own the development, prioritization, and execution of CSAI's research agenda, aligned with Cascadia's multi-year strategic plan and its Research & Development focus area.
- Translate CSAI's phased capabilities roadmap (Phase I, 1.5, and II testing and qualification capabilities) into a working research plan with clear milestones and success metrics.
- Ensure CSAI's research consistently demonstrates measurable value to producers, technical partners, and funders, and course-correct the agenda as new findings, partner needs, or market conditions warrant.
- Report research progress, risks, and strategic recommendations to the Executive Director and Board.

Technical Partnerships & Ecosystem Development

The Research & Development Director will build and steward the technical relationships that make CSAI's research agenda possible.

- Serve as CSAI's principal point of contact for technical partners, OEMs, technology providers, and SAF producers, ensuring their priorities and constraints inform CSAI's research and testing work.



- Liaise with national laboratories, universities, and global R&D partners to build-out a world-class SAF innovation center, bringing external expertise, equipment access, and co-funding opportunities into CSAI.
- Identify and cultivate new research partnerships and collaborations that expand CSAI's technical capabilities, including opportunities to apply AI and computational methods to fuel characterization and qualification.
- Represent CSAI at technical conferences, working groups, and industry forums, and help translate CSAI's research findings into education and outreach material for the broader SAF ecosystem.

WSU Partnership & Innovation Center Build-Out

The Research & Development Director will be the primary steward of CSAI's relationship with Washington State University and the build-out of the Paine Field innovation center.

- Work closely with WSU — CSAI's anchor research partner and host of ASCENT — to align CSAI's research roadmap with WSU's existing fuel qualification and low-volume testing capabilities, and to identify where CSAI can extend WSU's work rather than duplicate it.
- Support the design and buildout of CSAI's testing and qualification infrastructure at Paine Field, including the SAF sample repository, fuel finishing and improvement capabilities, and large-scale testing facilities, in coordination with the Capital Projects Program Manager.
- Coordinate closely with the Cascadia Sustainable Aviation Accelerator (CSAA) — particularly its Feedstocks and Policy focus areas — to ensure CSAI's research agenda and CSAA's market and policy work reinforce one another in pursuit of the shared 1 billion gallon by 2035 goal.

Feedstock Pathway Focus: Woody Biomass, Forestry Residue, Agricultural Waste, and Seed Oils

The Research & Development Director will lead CSAI's technical work to commercialize and de-risk new pathways.

- Own the technical research agenda for the woody biomass and forestry residue feedstock pathway, including solids handling and conversion into fluids, hydrothermal liquefaction (HTL) pathway qualification, and related process and fuel testing.
- Identify the technical barriers standing between today's forestry residue-derived fuels and commercial-scale, qualified SAF production, and design research programs to close those gaps.
- Partner with feedstock suppliers, producers, and researchers to de-risk these pathways in ways that are commercially meaningful — reducing technical uncertainty investors and producers face in bringing regional feedstock-based SAF to market.
- Coordinate with CSAA's Feedstocks focus area to connect research findings on woody biomass viability to the broader feedstock value model and playbook for the region.

Team & Organizational Development

The Research & Development Director will build CSAI's research function as the Institute grows.

- Build and lead a research function capable of expanding as CSAI grows, including future research staff, postdoctoral researchers, or technical program managers.
- Manage relationships with research contractors, fellows, and visiting scientists.
- Support organizational development of internal systems appropriate to an evolving start-up nonprofit.

Qualifications

Essential

- 8+ years of experience in R&D leadership, applied research, or technical program management, ideally in fuels, chemical engineering, bioenergy, or a related industrial science field.
- Advanced degree (M.S. or Ph.D.) in chemical engineering, chemistry, materials science, bioenergy, or a related technical field, or equivalent industry experience.



- Demonstrated experience building and managing relationships with universities, national laboratories, or other research institutions.
- Working knowledge of biomass and biofuel feedstock pathways, fuel testing and qualification processes (e.g., ASTM D4054), or comparable technical qualification frameworks.
- Strong project management skills across multiple concurrent research workstreams and external partners.
- Excellent written and verbal communication skills, with the ability to translate technical research into clear guidance for partners, funders, and the Executive Director and Board.
- Entrepreneurial mindset with comfort operating amid ambiguity in a start-up environment.

Desirable

- Direct experience with SAF, renewable diesel, or other advanced biofuel research and qualification.
- Familiarity with woody biomass, forestry residue, or other cellulosic feedstock pathways, including hydrothermal liquefaction (HTL) or related conversion technologies.
- Existing relationships with national laboratories (e.g., PNNL), FAA-affiliated research centers (e.g., ASCENT), or major research universities.
- Experience securing or managing federal, state, or foundation research grants and funding.
- Experience building a research function from the ground up in an early-stage or start-up organization.

Compensation and Benefits

Compensation is structured for a part-time engagement at approximately 50% of a full-time role, with a pro-rated target range of \$75,000 – 125,000 annually. Compensation and hours are expected to be revisited upon conversion to full-time.

We are open to considering various employment arrangements including joint appointments with a university, part-time employee, or contractor.

The final compensation package and structure will be agreed with the successful candidate depending on the employment arrangement.

About the Institute, a 501(C)(3)

The Cascadia Sustainable Aviation Institute is a first-of-its-kind nonprofit startup created to accelerate the research, development, and adoption of sustainable aviation fuel. Located at Paine Field in Snohomish County, Washington - the heart of aerospace expertise in the Pacific Northwest - and anchored by a partnership with Washington State University, the Center will house the world's first SAF sample repository, support finishing and fuel improvement, and enable large-scale testing to advance aviation decarbonization.

To be considered for this role: Please submit a CV and cover letter to info@cascadiasafinstitute.org with the job title in the subject line.

Start date: open until filled

