



Funded by the
National Science Foundation

IUCRC: Center for Advanced Forestry Systems
NSF Award Number: 1916793, 1916552, 1916587, 1916155, 1916699, 1915078, 1916720
Award period: 1/1/2021 - 12/31/2021
Program Manager: Prakash Balan
Assessment Coordinator: Victoria Hill

Center for Advanced Forestry Systems

Award Period: 1/1/2021 - 12/31/2021

Summary	2
Center Leadership	2
Faculty Members Directing I/UCRC Research Projects Funded by IAB	3
Students Working on I/UCRC Research Projects Funded by IAB	4
Membership Activity Table	4
IAB Members That Have Left the Center	5
Management of IAB Member Contact Information	5
Use of NSF Required Governance Practices for Center	6
Center Collaboration and Alignment with NSF Practices	7
Research Roadmap	8
Compliance with NSF Pre-IAB Meeting Practices	9
Compliance with NSF IAB Meeting Practices	10
Compliance with NSF Post-IAB Meeting Practices	11



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Summary

Provide brief description of current status of Center focusing on major changes since last Assessment Coordinator report. Address the following: change in sites, change in leadership/governance of the Center/Sites/IAB membership, significant events at IAB companies that might affect participation in the Center.

There have been no changes in sites or leadership of the Center. The Center has just completed year two of five in Phase III, and they are making plans for continuing post-NSF funding. University of Maine Site Director Aaron Weiskittel remains in the leadership role as the Center Director. The Center includes 7 sites.

A revised set of Bylaws are in the process of being approved by the IAB, in order to align with NSF requirements. No members have left over the past year, but a number of new members have joined; these include:

Idaho: New Forests, Idaho Forest Group

Purdue: Indiana Division of Reclamation, Indiana Division of Forestry

Georgia: NCX, Westervelt

Center Leadership

Role	Name	University/Organization	Email address
Lead Site	Aaron Weiskittel	University of Maine	aaron.weiskittel@maine.edu
Supporting Site	Eric Turnblom	University of Washington	ect@uw.edu
Supporting Site	Cristian Montes	University of Georgia	crmontes@uga.edu
Supporting Site	Mark Kimsey	University of Idaho	mkimsey@uidaho.edu
Supporting Site	Rachel Cook	North Carolina State University	rlcook@ncsu.edu
Supporting Site	Doug Jacobs	Purdue University	djacobs@purdue.edu
Supporting Site	Carlos Gonzales	Oregon State University	carlos.gonzalez@oregonstate.edu

Provide brief description of current leadership structure (can be repeated from prior report if no changes since last Assessment Coordinator report) and focus on major changes since last Assessment Coordinator report, e.g., changes in lead university/site leaders.

No changes since last report.



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Faculty Members Directing I/UCRC Research Projects Funded by IAB

Provide brief description, no more than one paragraph per site, of activities concerning participation of current faculty researchers in the I/UCRC. Highlight major changes since last Assessment Coordinator report, e.g., addition of new faculty researchers, loss of faculty researchers, attendance of faculty researchers at the IAB meeting.

Projects that faculty and researchers are currently working on:

- NCSU: Rachel Cook, START grant, new Co-PI Dylan Hurley of Montgomery Community College. Cook 21.87
- OSU: Jeff Hatten, Carlos Gonzalez, Doug Mainwaring, 19.75; Gonzalez 20.78; Hatten, Stephanie Winters, Doug Maguire, Gonzalez 20.81; Gonzalez, Hatten, Mainwaring 21.85; Mainwaring, Gonzalez 21.86;
- PU: John Couture, Doug Jacobs, 19.75; Jacobs, 20.78; Couture, Melba Crawford, Matt Ginzle, Brady Hardiman, Jacobs 20.80
- UGA: Cristian Montes, 19.75; Montes, Caternia Villari, Kamal Ghandi 20.80; Montes, Bronson Bullock 20.82; Montes, Alicia Peduzzi, 21.87; Joe Dahlen, Montes, Bullock 21.88; Dahlen, Montes, Bullock, Dan Markewitz 21.89
- UI: Mark Kimsey, 19.75; Andrew Nelson 20.78; Kimsey 21.87; Kimsey 21.90
- UW: Eric Turnblom, Kim Littke, Jason Cross, Mason Patterson, Rob Harrison 16.69; Turnblom 19.75; Littke 20.81; Turnblom, Cross 20.82; Cross, Turnblom 20.83; Turnblom, Littke 20.84; Littke 21.85; Littke, Turnblom 21.86;
- UMaine: Aaron Weiskittel, START grant, new co-PIs Neil Thompson and Ned Rubert-Nason of University Maine at Fort Kent. Kasey Legaard, Erin Simons-Legaard. Weiskittel, Larry Whitsel 19.75; Weiskittel, Parinaz Rahimzadeh 20.80; Weiskittel 20.81; Weiskittel 20.82, 21.85, 21.86, 21.87. UMaine/Weiskittel serves as the lead CAFS site.

No major changes to faculty, but George Newcombe, UI, completed work on project 16.67 and presented a final report at the June 2021 IAB meeting.



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Students Working on I/UCRC Research Projects Funded by IAB

Provide brief description, no more than one paragraph per site, of current student researchers focusing on highlights and major changes since last Assessment Coordinator report, e.g., addition of new student researchers, graduation of student researchers.

Anil Koirala (UGA) completed his MS in 2021 and is now a PhD student in Forest Resources at UGA; Cen Chen (UM) is completing his post-doc. Erkan Babat (OSU) is working on a project. Geoffrey Williams completed his PhD in Forestry and Natural Resources in 2021.

Membership Activity Table

Site	Member	Number in Attendance
NCSU	Reveal Ag and Timber	1
NCSU	Timberland Investment Resources	1
OSU, UGA	Roseburg Resources	1
OSU, UW	Lone Rock	1
PU	Indiana DNR	1
Purdue	IHLA	1
UGA	Arborgen	1
UGA	Superior Pine Products	1
UGA	Resource Management Services	2
UGA	IFCO Seedlings	1
UGA	Greenwood Resources	1
UGA	FIA	1
UGA, UI, UW	Molpus	1
UGA, UW	Rayonier	3
UI	Potlatch Deltic	1
UI, PU	USDA	3
UM	Acadian Timber	1
UM	Seven Islands Land Company	1
UM	NCASI	2
UM	Midgard Natural Resources	1
UM	JD Irving	1
UM	Huber Resources Corp	1
UM, UGA	F&W	1
UM, UW, NCSU, PU	American Forest Management	2
UW	Hampton Lumber	1



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UW	WA DNR	2
UW	Quinault	1
UW	Port Blakey	2
UW, OSU	Stimson Lumber	1
UW, OSU, UGA	Weyerhaeuser	6
UW, UGA	Green Diamond	2
UW, UI	HNRG	1

(IAB members with multiple universities listed have memberships through each of those universities)

Provide brief description of current IAB membership focusing on major changes since last AC report.

No major changes to IAB membership

IAB Members That Have Left the Center

Provide a brief description of the context regarding reasons for leaving and extent to which these reasons were influenced by unmet expectations regarding quality of research, Center performance, Center leadership, or other aspects of Center performance.

N/A

Management of IAB Member Contact Information

Explain methods used by the Center to maintain contact information of primary IAB member representatives, as well as alternate delegates within the Member Company, in case the primary member representative is unreachable?

Communication with IAB is primarily through email contact by the lead site directly with IAB member representatives, also via updates during site director meetings.



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Use of NSF Required Governance Practices for Center

(Source: <http://www.nsf.gov/eng/iip/iucrc/requirements.jsp>)

NSF Governance Requirement	Yes/No
An I/UCRC shall be composed of one or more universities, each of which is a Site.	Yes
Each Site shall name a Director who shall be the Principal Investigator for that Site's NSF grant.	Yes
Each Site shall create a University Policy Committee composed of administrators from that university to oversee compliance of that Site with the university's policies and procedures.	Yes
A Director shall be designated for the entire I/UCRC. She/he shall be either one of the Site directors or a co-principal investigator on one of the Site awards.	Yes
The I/UCRC shall define a membership structure for non-university, fee-paying members.	Yes
I/UCRC members may include for-profit and not-for-profit organizations (public or private), state and local agencies, or non-NSF federal agencies. A complete definition is found in the solicitation.	Yes
The membership structure shall define the types of members, member fees, and the rights of members, including all voting and governance rights, as per the conditions found in the solicitation.	Yes
The I/UCRC shall have an Industry Advisory Board (IAB) with one representative from each member. NSF, and/or its authorized representative, has the right, but not the obligation, to attend I/UCRC IAB meetings in their entirety.	Yes
The IAB shall elect a Chair.	Yes
The IAB shall meet at least twice per year with the meeting schedule and agenda being developed collaboratively with NSF.	Yes
The I/UCRC Leadership Team shall include all Site Directors, I/UCRC Director, and IAB Chair.	Yes
All I/UCRC members shall sign a single membership agreement approved by NSF and based on the template provided by NSF.	Yes
The membership agreement shall provide that all fee-paying members shall have non-exclusive, royalty-free rights to all intellectual property created by any research funded using member fees.	Yes
The I/UCRC shall create Bylaws that define its policies and operations.	Yes
The Bylaws shall adhere to the membership agreement and be approved by the IAB and NSF.	Yes
The Bylaws shall define a voting process for the approval of all research projects funded using member fees.	Yes
Research performed by the I/UCRC shall be pre-competitive in nature, and it shall be shared, directed, and funded by the fee-paying members.	Yes
All research projects funded by member fees shall be approved by the IAB using the voting process defined in the Bylaws.	Yes
NSF shall designate an NSF-funded Assessment Coordinator who shall attend all meetings of the IAB in their entirety, provide guidance to the I/UCRC, and collect data for NSF on the performance of the I/UCRC, from the IAB as well as the Center/Site Directors.	Yes
The I/UCRC shall submit an annual report to NSF summarizing the activities of the I/UCRC, including all Sites, and in accordance with NSF's reporting requirements.	Yes

Highlight non-compliant practices and discuss reasons for non-compliance.

N/A



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Center Collaboration and Alignment with NSF Practices

Please provide description of the Center status relative to each item below. If problems exist, AC should try to identify the source(s) of the problem and suggest potential remedial measures to NSF in the narrative box following each item.

Interaction/synergy among all Center Stakeholders (Academics and IAB members at meetings and in between meetings). Examples include: social hours and banquets during IAB meeting, video or telephone conference calls between IAB meetings.

Provide brief discussion of frequency and quality. Highlight unique or highly effective practices, as well as weak and ineffective practices.

Due to Covid-19, both IAB meetings had to be held virtually in 2021. Both IAB meetings involved informal networking opportunities. Site directors have regular meetings with their IAB members (e.g., UMaine meets with theirs every quarter). Site directors also meet on a quarterly basis.

Describe the level of collaboration across university sites and among the Center's major stakeholders (Center and site leaders, IAB chair, faculty researchers, student researchers, and Center support staff) and its impact on Center performance.

Provide brief discussion of extent and quality of collaboration and its impact on performance of the Center, e.g., use of faculty and student researchers from multiple university sites on the same research project versus research projects conducted with researchers from a single university (silos of research), proportion of all research projects that are collaborative.

In Phase III, all current research projects have been collaborative. CAFS remains highly collaborative with good synergies across sites and several cross-site outcomes including grant proposals and publications. The sharing of data and communications across sites has increased in Phase III. Site Directors regularly express value for the highly collaborative nature of CAFS.

Number of IAB-funded research projects employing faculty and/or student researchers from more than one university site: 11

Number of IAB-funded research projects employing faculty and/or student researchers from only one university site: 7



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Describe the level of interaction within the IAB with respect to the Center mission/ operations and how this interaction influences performance of the Center.

Provide brief discussion of extent and quality of interaction among IAB members and its impact on performance of the Center, e.g., most or all IAB members participate in discussions and contribute to decision making versus a small number of IAB members that dominate discussions and decision making.

The IAB remains highly engaged, with one of the highest meeting participation rates for the June meeting. Several IAB members have expressed strong endorsement and enthusiasm for CAFS, particularly expressing the need to see it continue post Phase III. The IAB member business meetings are very positive and primarily express gratitude for the organization as well as its leadership. The IAB is highly collaborative with broad representation from across the industry.

Research Roadmap

Research Roadmap	Responses
Does the Center have a Research Roadmap that clearly identifies its research strengths/weaknesses and opportunities/threats?	Yes
Is the IAB directly involved in the Research Roadmap creation/updating?	Yes
Does the Roadmap clearly show the research gaps and voids that need to be filled?	Yes
Does selection of member-funded research projects reflect gaps and voids identified in the Center Roadmap?	Yes

Provide brief discussion of quality of the Center’s research roadmap and how it is used to guide decision making, new project selection, and strategic growth of the Center, e.g., selection of new research projects, addition of new university research sites, recruitment of new IAB members.

The research roadmap is presented at each IAB meeting and project alignment is evaluated. Efforts to address additional aspects of the roadmap are used to prioritize future projects.

CAFS has continued to refine and update its research roadmap based on input from the IAB. Annual member surveys and technology needs assessment have been conducted, which are used to assess roadmap relevance. Since the start of Phase III, 50% of the identified research focal areas currently have a project. Efforts are underway to address the remaining 50% of research focal areas.



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Compliance with NSF Pre-IAB Meeting Practices

Pre-IAB Meeting Practice	Yes/No
Collect and make accessible in advance of meetings Executive Summaries (following the template found at http://www.nsf.gov/eng/iip/iucrc/exec_summary_portfolios.jsp) for all new project proposals to be presented at the IAB meeting.	Yes
Clearly document the Center project history. List completed projects and currently funded projects. List the cost, and beginning and end dates of each. Update this document prior to every meeting and provide to the IAB.	Yes
Organize an executive summary of Center financial information since the last meeting. Include major categories of income and sources, outlays and purpose, and balances. Keep income from memberships (use governed by the membership agreement, bylaws) separate from other income. Given this overall picture, show funds allocated to current projects and funds remaining for allocation by the Center to new projects. Conservatively project future funds for planning purposes.	Yes
Distribute NDA/CDA documents to all invited guests prior to the meeting with the expectation they be completely executed prior to the meeting.	Yes
Ensure all printed or electronic material conveying results of the Center's research clearly state that the content is Center Proprietary and that the Terms of the Center membership agreement apply.	Yes
Develop and distribute in advance a preliminary agenda for the meeting, outlining main meeting events and start/stop times with which people can plan travel.	Yes
Distribute a detailed final agenda just prior to the meeting. Effective agendas include:	Yes
Summary of the State of the Center by Center leadership	Yes
Meeting activities that support interaction between industry members as well as with faculty and students, including: poster sessions, industry presentations, and industry-driven mentoring session	Yes
Adequate time for LIFE assessment form completion after every project	Yes
Adequate time for IAB closed door meeting	Yes

Briefly highlight and discuss pre-meeting practices the Center is doing exceptionally well, not doing well, or not doing at all.

N/A



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Compliance with NSF IAB Meeting Practices

IAB Meeting Practice	Yes/No
Sign in all attendees.	Yes
Provide an attendee list to all of preregistered attendees.	Yes
And distribute an updated list at the close of the meeting. Most effective lists have faculty, students & postdocs, IAB members, and NSF grouped in their respective categories.	Yes
List must include complete contact information, must identify "guests" among the members from current members.	Yes
To showcase students, indicate if Master's Degree or Ph.D. and year of anticipated graduation.	Yes
At Point of Registration, "Non-Disclosure Form" is signed by each non-member industrial attendee and collected.	Yes
Deliver a Center report to the Center that brings members and faculty up-to-date on the Center and the university research site(s) including:	Yes
A review of the Center's vision and research roadmap and/or explicit set of Center priorities.	Yes
An update on the current Center membership.	Yes
Attention to outputs of interest of members and faculty (technology transfer impact, product, etc) from recently completed projects.	Yes
An update on publication/awards and other highlights.	Yes
An opportunity for discussion and questions by IAB members about the state-of-the-Center.	Yes
An overview of the upcoming meeting.	Yes
Material related to projects presented throughout the meeting (including posters).	Yes
Use a common slide master template for all presentations across all sites. Be conscious of maintaining Center branding. Slides should reflect the following (as appropriate):	Yes
Proposed projects should include proposed schedule, overall and first year deliverables, and proposed budget.	Yes
Ongoing projects must clearly state progress, milestones achieved, and deliverable status from those originally proposed.	Yes
Final project reports should summarize all deliverables and outcomes as well as new directions that have emerged from the work.	Yes
Enforce strict time limits for each project presentation and item in the agenda.	Yes
"Closed Meeting" sign posted; materials labeled "Center Proprietary".	Yes
Meeting activities are included that support industry/university networking; such as poster sessions, and industry-driven mentoring sessions.	Yes
Project LIFE assessment forms are completed and discussed by the IAB at each meeting.	Yes
IAB closed door meeting (NSF and IAB members only):	Yes
Work with your IAB Chair the agenda for the IAB closed-door meeting that provides an opportunity for members to raise issues about Center policies, procedures and research activities, and use of and modification of by-laws if any.	Yes
Ensure that the IAB has the comprehensive financial update of the Center to enable them to make informed funding decisions.	Yes
Provide the IAB Chair with a well-defined procedures and timetable for selection of research projects.	Yes



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Action Items and Plans for Next Semiannual Meeting Make sure to have reviewed the IUCRC Master Travel Calendar and have consulted with the NSF prior to the meeting regarding the availability of your preferred meeting dates.	Yes
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Briefly highlight and discuss IAB meeting practices the Center is doing exceptionally well, not doing well, or not doing at all.

A few challenges with virtual meetings, but the meeting went well.

Compliance with NSF Post-IAB Meeting Practices

Post-IAB Meeting Practice	Yes/No
Send meeting outcomes to Center participants.	Yes
Forward copy of IAB meeting minutes to IAB.	Yes
Confirm next meeting date.	Partial
Maintain an up-to-date and good quality centralized webpage for the Center with a secure area (password protected for members) where to promptly save meetings information, research products, and any material related to Center activities.	Yes
Center facilitates opportunities for project related communication (e.g., newsletters, regularly scheduled project conference calls) with the IAB between meetings.	Yes
Promptly inform the IAB of any invention and publication generated by the Center in compliance with the terms set in the membership agreement and bylaws.	Yes
Provide accurate and up-to-date information for the IUCRC directory on the IUCRC website. Instructions for updating here.	Yes

Briefly highlight and discuss Post-IAB meeting practices the Center is doing exceptionally well, not doing well, or not doing at all.

N/A