



Forest Service  
U.S. DEPARTMENT OF AGRICULTURE

## Outreach of Interest (OOI) Announcement INSTRUCTIONS

### SUMMARY INFORMATION

**Federal Award Agency Name:** U.S. Department of Agriculture (USDA) Forest Service (FS)

**Outreach of Interest Announcement Title:** Nanocellulose Research and Development for Sustainable Materials

**Opportunity/Announcement Number:** USDA-FS-R11-2024-11-06-WFCR

**Assistance Listing Number:** 10.707 Research Joint Venture and Cost Reimbursable Agreements, 10.699 Partnership Agreement Outreach

**Instrument Type:** Other (Non-Funded)

### Key Points

- OOI response deadline: **October 25, 2024 at 11:59 pm ET**
- USDA Forest Service will send an auto-response upon receipt of your package submission.
- USDA Forest Service will send each applicant a follow-up message within one month of package receipt.
- Forest Service will hold a live informational webinar: **September 25, 2024 at 2:00pm CT**. Forest Service staff will outline OOI details and host a Question & Answer session for potential applicants. Registration: [Webinar registration | Microsoft Teams](#).
- The webinar will be recorded for subsequent viewing. A link to the recording will be posted in grants.gov under opportunity number: USDA-FS-R11-2024-11-06-WFCR and can be found at the following website: [www.fs.usda.gov/working-with-us/grants](http://www.fs.usda.gov/working-with-us/grants), after **September 30, 2024**.
- Contact us: [opeg@usda.gov](mailto:opeg@usda.gov).
- Website: Research & Development- <https://www.fs.usda.gov/research/fpl>

*This is not a grant announcement. It is a non-funded, non-competitive outreach of interest (OOI) announcement to gauge applicants' interest in the Forest Service program of work. Responding to this OOI will not give an advantage to any organization or individual for any possible subsequent award action. Not responding to this OOI does not preclude participation in any future funding opportunity announcement, if any is issued.*

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## **I. Request for Proposal Overview**

### **A. Objective**

This outreach of interest (OOI) functions as an outreach mechanism to cultivate relationships and connect with potential partners. This OOI is intended to solicit responses to explore future projects meeting the needs and interests of potential partners through partnership agreements within legislative authority with USDA Forest Service.

USDA Forest Products Laboratory would like to advance the commercialization of sustainable cellulose nanomaterials into new markets and applications to drive a new forest sector industry. This OOI is our effort to expand our network of research partners, including those from diverse and underserved backgrounds. We believe that the best ideas and applications for this new material can come from any background or industry, and we will be most successful if we draw from a more diverse pool of researchers with background. Our partnerships will leverage the diverse backgrounds to better understand new markets and opportunities and accelerate the commercialization of these materials.

Your submission signals an opportunity for USDA Forest Service to explore with you your ideas/projects/programs and potential partnership opportunities. USDA Forest Service is committed to fostering a strong, collaborative partnership that benefits our forest product development efforts and develops new uses and markets for our residual forest biomass.

### **B. Non-Funding**

This OOI is non-funded and non-competitive. The intent of this OOI is to gauge your interest, feedback and/or your proposed projects ideas and concepts. The Forest Service is looking for partners to work on funded projects

## **II. Agency Overview**

### **A. Background**

The U.S. Department of Agriculture, Forest Service delivers world-class science, technology, and land management to sustain the Nation's forests and grasslands in collaboration with communities and our partners. USDA Forest Service manages 193 million acres of land, including 154 national forests, 20 national grasslands, 1 national tallgrass prairie, 7 research stations, and 81 experimental forests and ranges, as well as other special areas, in support of its' mission "to sustain the health, diversity and productivity of the nation's forests and grasslands to meet the needs of present and future generations."

As the lead federal agency in natural resource conservation, USDA Forest Service provides leadership in the protection, management, and use of the nation's forest, rangeland, and aquatic ecosystems. Through implementation of land and resource management plans, the agency ensures sustainable ecosystems by restoring and maintaining species diversity and ecological productivity that helps provide recreation, water, timber, minerals, fish, wildlife, wilderness, and aesthetic values for current and future generations of people.

For FY 2024, the goals of USDA Forest Service are to: 1) Sustain our Nation's Forests and

Grasslands working Environment; 2) Deliver Benefits to the Public; 3) Apply Knowledge Globally; 4) Excel as a High-Performing Agency. Forest Service National Priorities: 1) Providing Economic Relief; 2) Tackling Climate Change; 3) Advancing Racial Equity; 4) Improving Our Workforce and Work Environment.

As a values-based, purpose driven and relationship-focused organization, USDA Forest Service emphasizes working in collaboration with communities and our partners; providing access to resources and experiences that promote economic, ecological, and social vitality; connecting people to the land and one another; and delivering world-class science, technology, and land management. USDA Forest Service believes in service — to each other and the planet; the interdependency of people and nature; that conservation means we protect, preserve, and restore public lands for the people and enjoyment; that diversity is key—people and cultures, experiences, and ecosystems; and safety underpins everything we do.

## **B. Partnership Agreements with the USDA Forest Service**

Partnership agreements are entered into in support of USDA Forest Service mission. The USDA Forest Service may approach or be approached by a potential partner to enter into a partnership agreement that results in a joint accomplishment of work benefiting both organizations. The principal purpose of partner agreements is the creation of partnerships in support of projects of mutual interest and mutual benefit to each party. Mutual interest exists when both parties benefit in the same qualitative way from the objectives of the agreement. If one party independently has an interest in a project that is shared by the other party, and both parties pool resources to obtain the result of the project, mutual interest exists. Most of FS authorities requires a mutual interest agreement.

Partnership agreements are considered non-assistance agreements and are not considered grants or cooperative agreements as those terms are used in the Federal Grants and Cooperative Agreements, 31U.S.C. 6301 et seq. USDA Forest Service engages partnership work through a range of legislative authorities (see Section IV, Legislative Authorities).

### **Award Procedures**

The Forest Service has general authority to negotiate and enter into different types of partnership arrangements, including but not limited to Stand-Alone Agreements, or Master Agreements with tiered Supplemental Project Agreements (SPAs) or a combination thereof. Partnership agreements and their supporting documentation are both negotiated and drafted in collaboration with prospective partners prior to entering into a funding arrangement. Discussions cover at a minimum, the appropriate statutory authority; a description of the project, including methodology and technical specifications; contributions and the responsibilities of the parties; financial plan; the period of performance; monitoring and accomplishments reporting. Regardless of who initiates discussions, all elements of a project are subject to negotiation. Any party may terminate the agreement at any time. Except for provisions necessary for legal compliance, all elements of a partnership agreement are subject to negotiation and modification. Both parties are expected to negotiate, resolve, and document differences in cost and/or proposed work in writing. None of the parties should perform work outside the scope of the existing instrument or in excess of the funding prior to the execution of a formal modification.

### **Project Length**

Awards under this announcement are typically 1 to 5 years in length. Projects of greater complexity may be awarded for a longer period, not to exceed 5 years.

### **Cost Share Match Requirements and Match Reductions or Waivers**

For partnership agreements, the partner's contribution should not be less than 20 percent of the total project cost, unless allowable under a reduction or waiver (see below). The matching amount should be consistent and commensurate with the project scope, size, and/or benefits received. The partner may satisfy the matching requirement by providing cash, real or personal property, services, and/or in-kind contributions, such as volunteer labor. Cash and third-party in-kind matches must consist of eligible costs.

Cash match is from the applicant's budget, such as personnel salary, fringe benefits, travel, equipment, and supplies, or cash provided by another party. Source of cash match cannot be derived from another Federal award. Cash donated or provided to a cooperator, specifically for that project is an in-kind contribution.

In-Kind match is a non-cash contribution of value. A non-Federal entity's in-kind match must meet the following criteria:

- Are verifiable from the non-Federal entity's records;
- Are not included as contributions for any other Federal award;
- Are necessary and reasonable for accomplishment of project or program objectives;
- Are not paid by the Federal Government under another Federal award, except where the Federal statute authorizing a program specifically provides that Federal funds made available for such program can be applied to matching or cost-sharing requirements of other Federal programs;
- Are provided for in the approved budget when required by the Federal awarding agency; and
- Conform to the Forest Service handbook (FSH1509.11), manual (1580) and/or other applicable federal laws and regulations.

Supplemental Guidance for Match Waivers and Match Reduction: The Forest Service may reduce or waive the minimum 20 percent cooperator match requirement for a project that serves an underserved/disadvantaged community or is a tribal sovereign.

### **Indirect Cost**

Indirect costs are approved for reimbursement or as a cost-share requirement and have an effective period applicable to the term of master and supplemental agreements. Expenses that are necessary for the operation of an organization, but not specifically identified with or traceable to a specific program or output, that is, not a direct cost but rather a cost distributed across many programs or outputs. Often referred to as "overhead," or in the Forest Service as "burden," indirect costs are incurred as part of general management and administrative support of an organization, and may include office and personnel expenses, computers, and utilities.

## **III. Initiative Overview and OOI Intent**

## **A. Program Overview**

The objectives of this program are:

1. Advance the commercialization of cellulose nanomaterials (CNMs) in the United States. CNMs are showing promise in applications, such as, paper, food coatings, renewable packaging, cement, personal care, biomedical, construction materials, compounding with polymers, etc.. However, none of these applications has truly broken through to commercialization. The barriers to commercialization of CNMs are many: cost, production capacity, delivery format, characterization, uniformity, consistency, health and safety, profitable application, clearly defined benefits via technical economic and life cycle analysis (TEA/LCA), etc.. This program will look for partners to help overcome barriers to advance applications to higher technology readiness levels (TRLs).
2. Develop a CNM R&D hub at the Forest Product Laboratory. With 20 years of CNM R&D experience, FPL has substantial capability in expertise, equipment, and partnerships. This partnership should continue to build FPL's position as an international hub for CNM R&D by either strengthening existing partnerships, making new collaborations, building new capabilities, etc..
3. Create a sustainable future. CNMs have the capability to reduce our dependence on greenhouse gas intensive materials like plastic, cement, and oil. In addition, commercial production of CNMs from forest thinning could help pay for sustainable forest management to reduce fire risk and promote healthy growth of the forest resource.

Over the last 10 years, the Forest Products Laboratory has worked with partners from over 20 universities on a over 30 individual cellulose nanomaterials research projects funded by a variety of sources. Areas of research have included:

- Cement additives to enhance properties
- Barrier films for oxygen, moisture
- Water filtration and contaminant adsorption.
- Timed release of fertilizers or pesticides for agriculture
- Sunscreens
- Rheology modifiers
- Health and safety of CNM
- Fruit and food coatings
- Food trays
- Paper additives

Partner rolls have varied from modeling, measurement, and chemical analysis to field work and marketing studies. We welcome all suggestion for how a partnership can help advance the field.

## **B. Statement of Work**

The purpose of this OOI is to advance commercialization of CNM. The work will include advancing a proposed CNM application from its current Technology Readiness Level (TRL) to a higher level to reduce the risk of commercially investing in developing these materials. Some projects are currently just an idea for how CNM might be used (TRL 1) and a laboratory demonstration or proof of concept is needed (TRL 3). Some projects have already had the principle demonstrated (TRL 2-3) but need pilot level to work (TRL 5-6) to show that it can work at speed under relevant conditions. Some projects have been run with industry partners to demonstrate a technology in commercially relevant settings (TRL 8) to enable commercial

launch (TRL 9).

This work will require an objective, with research questions, and a set of research steps to answer those questions. A statement what the deliverables will be when the work is completed is also needed.

### **C. Project Priorities**

USDA Forest Service is interested in projects that:

- Advance commercialization of CNM
- Make a sustainable future by developing cleaner materials to replace existing unsustainable materials
- Make FPL center of CNM research
- Develop high volume uses for residual biomass as CNM to help fund forest management operations
- Broaden our circle of research partners

## **IV. Legislative Authorities**

USDA Forest Service engages in partnership work through a range of Legislative Authorities. (Example Authorities listed below.)

- Cooperative Funds and Deposits Act of 1978, Public Law 94-148 as amended. 16 USC 565a-1
- Wyden Amendment (Public Law 105-277, Section 323 as amended by Public Law 109-54, Section 434, and permanently authorized by Public Law 111-11, Section 3001)
- Interior and Related Appropriations Act of 1992, Public Law 102-154
- Public Land Corps Healthy Forests Restoration Act, Public Law 109-154, 16 U.S.C. 1701
- 638 Tribal Forestry Protection Act, Title 2018 Farm Bill P.L. 115-334, Section 8703, 25 U.S.C. 3115.
- Stewardship End Result Contracting, Public Law 108-148 §604. 16 USC 6591c.
- Good Neighbor Authority: Agricultural Act of 2014, Pub. L. 113-79, section 8206 as amended, 16 USC 2113a
- Agriculture Conservation Experienced Service (ACES) Program, 2014 Farm Bill, Public Law 113-79, Section 8302
- Federal Technology Transfer Act of 1986, Public Law 96-480, 15 U.S.C. 3710a
- National Agricultural Research, Extension, and Teaching Policy Act of 1977, Public Law 95-113, 7 US Code 3318 and 3319a
- The Pittman-Robertson Wildlife Restoration Act of 1937 (Pittman- Robertson; 16 U.S.C. §§669 et seq.).
- North American Wetlands Conservation /reauthorization Act of 2006.
- The Duck Stamp Act, 1934, chapter 71, 48 Stat. 451, subchapter IV (§718 et seq.)
- Sikes Act, 1960 (16 USC 670a-670o, 74 Stat. 1052).
- Endangered Species Act of 1973: 16 U.S.C. §§1531-1544
- Bald and Golden Eagle Protection Act: 16 U.S.C. 668 - 668d
- Migratory Bird Treaty Act, 16 U.S.C. § 703-711 and Executive Order 13186 (Responsibilities of Federal Agencies To Protect Migratory Birds)
- Fish And Wildlife Coordination Act: 16 USC 661-666c

## V. How to Respond

### A. Eligible Responders

Eligible responders include for-profit; non-profits; institutions of higher education; federal, state, local, and Native American tribal governments; organizations, and special purpose districts (public utility districts, fire districts, conservation districts, school districts, and ports.)

### B. Content and Grants.gov Submission (for interest or feedback)

- Submit SF 424, Narrative Statement, and the attachment form through grants.gov or the opega@usda.gov. Submissions should be in .pdf or .doc format. **Section VI: Forms** section of this document includes forms for your use. For other feedback, use the grants.gov “attachments” form.
- Respond by: **10/25/2024; 11:59 PM Eastern Standard Time (EST)**.
- Grants.gov submission is **preferred**. A grants.gov applicant account is required for submitting interest through grants.gov [Home | Grants.gov](#). See Grants.gov organization registration page for registration guidance.

Note: After registering, please choose “subscribe” in grants.gov. By subscribing to OOI Opportunity Number: (USDA-FS-R11-2024-11-06-WFCR) you will be notified of any updates and notifications.

Grants.gov provides customer support 24/7 via toll-free number **1-800-518-4726** and email at [support@grants.gov](mailto:support@grants.gov). In addition, grants.gov has video tutorials available.

- Once registered in Grants.gov search for OOI Opportunity Number: (USDA-FS-R11-2024-11-06-WFCR) United States Department of Agriculture, Forest Service.

Note: System for Award Management (SAM) registration is required to submit any application across the federal government through grants.gov. SAM registration is a lengthy process. If you are not currently registered in SAM, we strongly recommend registration.

- No hardcopy applications will be accepted.
- For questions related to OOI opportunity: USDA-FS-R11-2024-11-06-WFCR, please contact USDA Forest Service: [opega@usda.gov](mailto:opega@usda.gov).

### C. System for Award Management (SAM) registration SAM.gov | Home

SAM.gov registration is required for submitting responses in grants.gov. SAM.gov registration is free. The approval process for a new or renewal SAM registration can take several months. If you are awaiting SAM registration and cannot submit through grants.gov, please send your application to: [opega@usda.gov](mailto:opega@usda.gov).

## VI. OOI Announcement

USDA Forest Service is committed to fostering strong, collaborative partnerships benefitting the environment and underserved communities. These collaborations are vital for delivering world-class science, technology, and land management to sustain the Nation's forests



and grasslands in collaboration with communities and our partners. By working together, we all can help advance the field in technological efforts on national forests.

Your submission signals an opportunity for USDA Forest Service to explore with you the ideas/projects/program in your submittal and your feedback.

**Submission:** For submission procedures, please see Section V: [How to Respond](#).

### **A. Forms**

If you would like to provide interest or feedback, you can respond using the forms located within the Grants.gov website. In addition, direct links are provided below.

- [SF-424 Form](#): Application for Federal Assistance (OMB 4040-0001)
- [Attachments Form](#): “Attachments Form” (attach documents for submission into Grants.gov using this form)
- Narrative Statement Form

Note: If you receive an error when opening a form, it may indicate that you have either opened the PDF file with an incompatible version of Adobe PDF software or you have opened the PDF file with a browser that has a built-in PDF viewer that is not compatible with Grants.gov. Save the form on your computer and then open the most up-to-date Adobe PDF software and open the saved file on your computer.

If you do not have a compatible version of Adobe PDF software, please reference the steps below to download a compatible version.

1. Go to <http://get.adobe.com/reader/otherversions/>
2. Under STEP 1, select your operating system.
3. Under STEP 2, select your preferred language.
4. Under STEP 3, select the version of compatible software you want to download.
5. Under OPTIONAL OFFERS, you may check or uncheck these offers based on your preference.
6. Click on the DOWNLOAD NOW button to begin the download of the software.

## **VII. Response Notice Timeline**

- A. The agency will send an auto-response when response submissions have been received.**
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