



Request for Proposals to Advance Commercialization of Cellulosic Nanomaterial in partnership with consortium led by Montana Department of Natural Resources and Conservation and Blue Marble Biomaterials

The Montana Department of Natural Resources and Conservation and Blue Marble Biomaterials, LLC are soliciting partners to build a consortium of research and business entities in Montana to work with us to advance the commercialization of cellulosic nanomaterial. We are soliciting individual research proposals to be combined under the consortium that will submit a joint proposal to the P³Nano RFP advertised by the U.S. Endowment for Forestry and Communities and the USDA Forest Service (<http://www.usendowment.org/images/P3Nano.Request.4.Proposals.4.30.2014.pdf>).

Nanocellulose produced from wood has varied properties (e.g. mechanical and barrier properties, film- and foam-forming properties, viscosity, etc) that make it an interesting material for many applications. This may include enhancing fiber-fiber bond strength, use in composites, UV protective coatings, optics, biopolymers and packaging, food additives, absorbent products, cosmetics and pharmaceuticals, oil recovery, and various other applications.

Here's an opportunity to be creative investigating commercial applications for cellulosic nanomaterial from wood –a local, organic, and renewable bio-based material.

Proposal Submission

Please submit a one-page proposal by June 16, 2014 to Julie Kies via email (jkies@mt.gov).

The Montana steering committee will review and select the strongest research proposals and combine them into a full proposal to be submitted by the consortium to the U.S. Endowment. Proposals selected for the joint-submission from the Montana consortium will be contacted by June 19, 2014, and we will complete our full proposal for submission by July 1, 2014. Awards will be made by the U.S. Endowment by August 15, 2014.

Your one-page proposal should briefly articulate how the proposed work will lead to rapid commercialization of cellulosic nanomaterial. Include project abstract, key questions being addressed, background, scientific approach, expected results, and a preliminary budget. Also attach a brief biography of the principal investigator(s).

The total anticipated budget for the full project of the Montana consortium is \$300,000-\$350,000. We anticipate that individual member project budgets will not exceed \$55,000. We anticipate a three year term on this project.

While open to a broad range of proposals, the US Endowment is interested in investigating:

- Environmental health and safety
- Cellulose nanomaterial dewatering
- New/novel composites containing cellulose nanomaterial
- Fundamental studies on cellulose surfaces focused on improving the interface between cellulose particles and typical composite resins
- Development of photonic and electronic enabled materials using cellulose nanomaterial
- Manufacturing cost analysis including +/- 30 capital cost estimate, mass and energy balance and cost sensitivity analysis for production of a cellulose nanomaterial
- Other new/novel applications of cellulose nanomaterial

Varied forms of cellulosic nanomaterial will be made available for research projects.

Informational Tele-Conference

Date: Tuesday, June 10, 2014

Time: 2:00-3:00 PM (MTN)

Phone Number: 1-719-234-7800

Participant Passcode: 531592

The Montana Department of Natural Resources and Conservation (DNRC) Wood Products and Biomass Program works to diversify and expand markets for Montana forest products. DNRC will provide overall coordination and oversight to this consortium ensuring our progress to meet project objectives and timelines while providing links to Montana wood-based businesses and supplies of forest feedstocks.

Blue Marble Biomaterials, LLC engages in the research, development, and manufacturing of natural and sustainable specialty chemicals from cellulosic and side stream biomass for the \$45 billion global food, fragrance, and cosmetic industries. The company has developed an extensive portfolio of proprietary technology for the separation, extraction, and conversion of natural materials as well as a patented process of using bacteria to produce molecules traditionally manufactured from petroleum. Blue Marble will be providing expertise to this consortium by working on the improvement and application of cellulosic nano-materials. Blue Marble will be working on side-stream recovery from the manufacturing process, drying and application of nano-materials, and offering analytical and laboratory assistance to consortium members at its facilities located in Missoula, MT.