

**Profile** A highly motivated and results driven leader who has over 15 years of experience in the forest products industry. President of an international non-profit organization that brings science, dialogue, and stewardship to advanced technologies in forestry and forest products manufacturing. Adept and interested in greenhouse gas accounting and carbon footprint modeling, climate change, forest sustainability, open science technologies.

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**Education** **Duke University**, Durham NC 2001  
*Master of Environmental Management*

School: Nicholas School of the Environment  
Master's project: Carbon Sequestration Potential for the Forest Products Industry.  
Focus: Resource management, environmental policy, forest carbon cycling.

**University of Rochester**, Rochester NY 1999  
*Bachelor of Arts – Energy and the Environment from Chemical Engineering*

School: Chemical Engineering  
Honors: Cum laude, highest distinction, honors thesis.  
Focus: Energy engineering, thermodynamics, resource depletion modeling.

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**Experience** **Institute of Forest Biosciences**, Cary NC 2007 – Present  
President

Scientific

- Analyze risks and benefits of forest technologies and regulations.
- Quantify greenhouse gas emissions based on the GHG corporate accounting protocol.
- Assimilate and summarize highly technical concepts ranging from greenhouse gases to international genetic modification policy.
- Pushing forest science forward to meet social and environmental needs through various efforts including securing \$750,000 to launch a National Academy of Sciences study on genetically engineered trees, serving as a technical advisor to the National Academy of Sciences, and publishing an article in the journal Science on the factors thwarting progress of advanced technologies to combat forest pests.

Management

- Administer and sit on the Board of Directors a 501(c)3 organization and conduct all aspects of non-profit administration, including fundraising, financial, contract negotiation, long-range strategy, fiduciary, and human resources.
- Manage multi-million-dollar projects across research stations and universities including securing over \$10 million in grants from federal agencies, foundations, and corporations.
- Solve novel problems, from bootstrapping to public launch that promote a strong factual basis for communicating and understanding advanced forest technologies.
- Maintain a rigorous focus on delivering real-world solutions even under conditions that require creating actionable results from multiple conflicting priorities.

Partner

- Collaborate with multiple partner organizations, including forest products companies, universities, federal agencies, and nonprofits.

- Engage forest certification systems including SFI, FSC, PEFC, and CERFLOR, on technical and policy issues that constrain forest health and productivity.
  - Assist partners in dialogues with stakeholders including those adversarial to corporate forestry, plantations, and genetic modification.
  - Collaborate with the World Wildlife Fund for Nature's New Generation Plantations on efforts to share best management practices in plantation forestry within and outside the industry.
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**International Paper, Memphis TN**  
Corporate Environmental Manager

2001 - 2006

- Engaged customers, government regulators, and policy makers on the environmental aspects of sustainable forestry and forest product manufacturing.
  - Led the company's carbon accounting protocol research.
  - Principal researcher on the World Resource Institute's GHG accounting protocol.
  - Developed the corporation's carbon balance model that enabled selling GHG credits.
  - Served as corporate delegate to Kyoto Protocol Conference of the Parties in Nairobi, Kenya and Montreal, Canada.
  - Assisted with EPA required digital autonomous EMS deployment for Eastover Mill, SC.
  - Guided manufacturing sustainability compliance and stakeholder communications.
  - Produced industry leading sustainability reports for the corporation. Submitted annual corporate-wide sustainability metrics to FTSE4GOOD and was ranked first in the world by the Dow Jones Sustainability Index.
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**Publications**

Strauss, S.H., **Costanza, A.**, Séguin, A. 2015. Genetically Engineered Trees: Paralysis from Good Intentions. *Science* 349(6250):794-795. DOI: 10.1126/science.aab0493

**Costanza, A.**, S. McCord. 2015. Forest Tree Adaptation: 8 Gaps and Initial Recommendations – A Tree Genes Initiative Report. Institute of Forest Biosciences. Available at: [treegenes.org](http://treegenes.org)

**Costanza, A.** 2013. Regulation, Certification, and Use of Biotech Trees. Institute of Forest Biotechnology. Available at: [forestbiotech.org](http://forestbiotech.org)

**Costanza, A.**, S. McCord. 2010. Responsible Use: Biotech Tree Principles. Institute of Forest Biosciences. Available at: [responsibleuse.org](http://responsibleuse.org)

**Costanza, A.**, S. McCord. 2009. Forest Biotechnology and its Responsible Use – A Biotech Tree Primer. Institute of Forest Biosciences. Available at: [responsibleuse.org](http://responsibleuse.org)

McCord, S., **Costanza, A.** 2008. Genetically Engineered Forest Trees – Identifying Priorities for Ecological Risk Assessment. Institute of Forest Biosciences.

Cote, W., R.J. Young, **Costanza, A.**, Tonelli, J.P., Lenocker, C. 2003. A Carbon Balance Method for Paper and Wood Products. *Environmental Pollution* 116:S1-S6.  
DOI: 10.1016/S0269-7491(01)00240-8

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## Additional Skills and Experience

- Operate and maintain all of IFB's project websites using HTML, CSS, and CMS.
  - Consulted with IDEO on cryptographic currencies.
  - Using Blockchain technology to solve transparency and security problems.
  - Routinely use strong encryption with public / private cryptographic keys.
  - Comfortable interfacing SQL Databases for data ETL operations.
  - Use Python to pull data from multiple sources and make real-time decisions.
  - Implemented IDEO's Human Centered Design for an international focus group.
  - Former negotiator for AHEAD Energy to the Ministry of Energy in Mozambique.
  - Completed International Paper's Paper Manufacturing course
  - Comfortable using a chainsaw and felling trees.
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## Certifications

- FAA UAS Remote Pilot (SUAS Drone) ID: 3917476
  - USDA eAuthentication Level 2 (Regulated biotech article practitioner security clearance)
  - USDA Metastorm (Federal business process management system for grants)
  - Microsoft DAT201x (SQL) ID: [9d7e3e038d1e4eb0b0dbdf914e2649a3](#)
  - Microsoft DAT208x (Python) ID: [4b73a714a0074974903ebbad1bf72843](#)
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## Presentations

The Future of Forestry Knowledge. 2017. New Generation Plantations 10-year summit. London, UK.

Forestry Knowledge Sharing is now OPEN. 2017. IUFRO World Congress. Freiburg, Germany.

Will Regulatory Policy Catch Up to Biotechnology Advances? 2015. USDA APHIS, EPA, FDA Seminar. Washington, DC.

Democratizing Tree Data Collection with TreeTaggr – A Mobile Forest Health Tool. 2013. Invited to present at Scion Headquarters. Rotorua, New Zealand.

Biotech Tree Regulation and Responsibility. 2012. International Symposium on Biosafety of Genetically Modified Organisms. St. Louis, MO.

Integrating Science, Dialogue, and Stewardship for Forest Biotechnology. 2012. Canadian Forest Service Seminar. Ottawa, Ontario, Canada.

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## Technical Products

Forest Tradeoffs – Information Visualizations. 2015. Interactive infographics. Available at: [responsibleuse.org](#)

Regulation, Certification, and Use of Biotech Trees – How and Where Will Biotech Trees be Used in Coming Years? 2013. Whitepaper. Available at: [forestbiotech.org](#)

Forest Biotech Research at a Crossroads: What Does the Future Hold? 2013. Technical Workshop. International Union of Forest Research Organizations Tree Biotechnology. Asheville NC.

TreeTaggr – The Forest Health Tool at Your Fingertips. 2013. Poster. Kauri Dieback Symposium. Auckland, New Zealand.

**Professional  
and Public  
Service**

- Lectured 5 times at an advanced wood and paper science undergraduate course at North Carolina State University on public perceptions of the forest products industry.
- External communications including conventional and social media.
- Participate in stakeholder meetings as a down-to-earth technical resource
- Present research at international forums.
- Developed TreeTaggr for citizen science, outreach, and education, [treetaggr.org](http://treetaggr.org).