

Meet Renata



**Renata Bura, a Professor at
the University of Washington**

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Renata Bura is a professor of Bioresource Science and Engineering and the Denman Professor in Pulp and Paper Engineering at the University of Washington in Seattle, Washington. She is interested in how different areas of science and engineering can work together to create new solutions for different environmental challenges. For the past five years she has been working to establish a new interdisciplinary research area that connects the renewable fuels and chemicals industry with water clean-up, water availability, climate change, and policy. This will enable the solutions they develop to be implemented in a way that helps everyone.

In her research, which connects different areas of science and policy, it is very important that everyone sees all sides of a problem. When she first started working in this area, she realized she couldn't only develop the science behind growing and turning plant materials into chemicals and fuels, but that there were other parts of the problem that she needed to make sure she had solutions for. For example, she can have a fantastic starting material (the plants) and a process to turn those plants into energy that is affordable and environmentally friendly, but if she doesn't have access to the water she needs to grow the plants (which is controlled by the government and policy), she won't be able to make things work on a large scale.

Another example is with her work with poplar tree plantations in Pilchuck, Washington. Initially she was thinking only about using these plants for the production of fuels and chemicals. However, as she learned more, she realized they could be used for so much more than just the end product. In fact, as the trees are growing they can be used as *riparian buffers*, which are natural plant materials that can protect rivers and water ways by removing pesticides and other water contaminants. In this way, poplar trees are natural “water treatment plants” that can clean the water while they are growing and then be used as a renewable material input for other products that we need (fuels, fiber, and other chemicals).



Renata studied many things during her education, including chemistry, microbiology, and environmental science & bioresource engineering. Who knew that someday her career would use all these different subjects in one job!