EDITORIAL

FAREWELL FROM AN OLD WOOD SCIENTIST AND TECHNOLOGIST

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Many wood scientists who have been well-known and made important contributions to this discipline become quiet in advanced age. Most of us do not know what happened to them. They simply stop publishing and attending conferences. When I come across a familiar name, I often wonder how and where they are and what they are doing.

I've now joined the vanished from the profession. Although not one of the "stars," I have contributed quite a bit and still have my publications read and referenced regularly, as helpfully tracked by ResearchGate. I retired from a professorship at the University of New Brunswick in 2007 but continued some work in my private laboratory. I just closed that laboratory and disposed of all the contents in July 2019. That closing caused me to reflect on my career. Perhaps, recounting it could be useful to others.

My wood science career started as a student at SUNY College of Forestry under the guidance of Wil Cote (notable for microscopy and ultrastructure) and John Meyer (who developed heat-cured wood polymer composites). My working career was carried out at the University of New Brunswick (UNB). My mentor there was Leslie Sebastian, a wood anatomist. I kept contact with these three men who had such a good influence on my life until they died.

In my 40-yr career at the UNB, I taught undergraduate and graduate courses, led mill visits to forestry camps, taught extension courses in kiln drying, served for a time as assistant dean of forestry, and carried out research programs in wood fuel and wood polymer composites. I also taught a couple of humanity-type courses (interpersonal communications and group processes) in the forestry faculty.

When I first arrived at the UNB, Leslie was teaching a course in basic wood technology for all forestry students and an elective in wood products. I took the wood products course and subsequently developed additional courses in wood anatomy, microtechnique, and photomicrography. At that time, we did wet, silver chemistry in a darkroom to develop the photos. About then, Leslie prepared stained microscopic slides of most Canadian commercial woods and took color photomicrographs of them. The glass slides were used for teaching, and later, I made digital copies of the color photos and used them for the laboratory also. The digitized photos are of excellent quality and are still useful.

As time went on, Leslie continued to teach basic wood technology. I developed further and specialized courses in wood drying, adhesives, and coatings for the wood technology stream we had in forestry.

Biomass energy became of interest in the 1970s, and I developed a research program in the discipline. We studied small- to medium-sized automatic wood chip heating systems. In the research project, we harvested chip fuel in the forest using small-scale equipment, stored, and dried it and had automatic stoker furnaces built to burn the chips, installed a couple in homes, and monitored the energy use in those homes. I also visited installations in other countries and presented papers at several conferences.

Since working with John Meyer at Syracuse, I had been interested in wood polymer composites. At the UNB, I had a small, vacuum impregnator made and used it to prepare small quantities of wood impregnated with methyl methacrylate and cured using heat. At first, it was more of a curiosity, but some interest developed in the New Brunswick government. I began to obtain grants for exploratory work in the discipline. In parallel, and without my knowledge, a New Brunswick industry which made furniture from white pine had a federally

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funded project hardening the pine with MMA. When that company failed, the polymer chemist director of their project, his technician, the pressure treating cylinder and curing oven for the project came to my UNB laboratory. Together, the polymer chemist, Keith Brebner, and I developed a serious research project in wood polymer composites using several wood species, several monomers, and various initiator and dye combinations.

One novel chemical combination was furfuryl alcohol as the monomer and maleic anhydride as the initiator. I began its development independently of the university, in my home basement laboratory. This formulation was later integrated into the UNB project, and when the patents for it were later sold, the UNB and I shared the proceeds. This technology is called Kebony by the Norwegian company which has commercialized it. For a few years, we supported the Kebony technology commercial development using my Canadian company's small laboratory. Kebony developed its own research department and no longer needs our support. With the closing of my company, I no longer have the ability to make wood polymer composites. That is fine because my time for that has passed. My longtime colleague, Jonathan Phillips, kept our laboratory-scale treating equipment when we closed the company and can still do small-scale treatment.

For several years, I tried to get a situation in place that would continue the companies and the development of wood polymer composites after I retired. My children expressed interest, so they, with Jonathan and myself, became shareholders in a new company. Several people, including some of my former wood science students, considered the company for their career and worked there for a time. But, at the end, the right combination of wood technology expertise and business skill did not come together, so we closed the company.

During my career, I was a member of the Society of Wood Science and Technology, the New England Kiln Drying Association, and the Forest Products Society. I served a term as president of the Eastern Canadian Section of the FPS.

I still have two very old but good quality microscopes: one a compound for thin slides and the other a dissecting for surfaces. Using these and wood technology books, I can still identify wood when needed.

Now in my 77th year, my contact with wood is almost exclusive for repairing and building new guitars, mandolins, and basses, mainly for my own use. But, I can't stop experimenting. The instruments have innovations, some of which seem to work as expected and others of which need more experimenting. I have enough wood polymer composites samples we treated over the years to make parts for these instruments, like nuts and bridges, from them. I play the instruments in two groups of Christian musicians that I, by default because I can read music and know some theory, became the leader of.

The career of wood science and technology has been very rewarding to me. For anyone who likes to help people, enjoys the feel, look, and smell of wood, and who wants to increase the use of a renewable material, consider this as your life's work.