Thermal Modification of Wood: Processes, Performance, and Applied Design
Patrick Donahue, University of Minnesota-Duluth and
Martin DeSpang, University of Hawaii-Manoa

ABSTRACT
Our presentation will provide an historical overview of development thermal modification of timber products (TMT) processes and product design. We will examine the past two-decade growth of the commercial development of thermal modified wood in Europe and review of the technology providers and their unique process characteristics. We will provide a comprehensive review of wood protection performance literature of thermally modified. Our goal is to provide the necessary background so that AWPA members can consider investing in new North American TMT manufacturing capacity.

Review of Enzymatic Wood Modification for Wood Protection Purposes: Successes and Potential
Dragica Jeremic, Mississippi State University

ABSTRACT
With the advancements in biotechnology, the use of enzymes in many industrial applications is not just a possibility, but rather a reality. Some of these enzymatic applications can be potentially modified and translated into promising wood protection methods that satisfy the green requirements of the future. This presentation reviews up-to-date uses of enzymes, mainly through the use of living fungi for purposes of wood modification. It summarizes characteristics of enzymes that can be beneficial and preventing for the use in wood protection, focusing mainly on oxidative and enzymes with surfactant properties. Some recent attempts of using enzymes for wood modification will be discussed.

Application Methods for Moldicidal Diffusion Treatment of Solid Wood and Composites
Scott Hoffman, Lonza Wood Protection

ABSTRACT
Delivery methods for the wood preservatives typically involve autoclaves, dip tanks, flood coaters and spray booths. This paper will describe a different approach taken to apply a moldicidal products to a variety of solid lumber as well as composite materials and products such as trusses, SIP’s, components, panels, and other Engineered Wood Products. The use of these materials in the field and on job sites will also be demonstrated as well as their synergy with AWPA approved materials.
Barrier Wrap Technology: A Review and Technology Update to the AWPA

Michael H. Freeman, Independent Wood Scientist and Craig R. McIntyre, McIntyre Associates, LLC

ABSTRACT
This paper will serve as an update to the AWPA on various barrier wrap technology systems. Since the early 1920’s, the AWPA has expressed interest in either barrier systems and/or protective coating systems. In 2007 and 2008, these authors introduced to the AWPA audience and into the Technical Committees, AWPA Standard P-20 and ultimately, AWPA Appendix K to the Commodity Specifications on the AWPA, printed annually in the Book of Standards (BoS). Although technology has changed and improved since the original introduction, all the original supporting datasets still remain viable. Barrier systems offer consumers and users alike, the increased protection, and assurance of minimal losses of preservative, especially in environmentally sensitive areas.