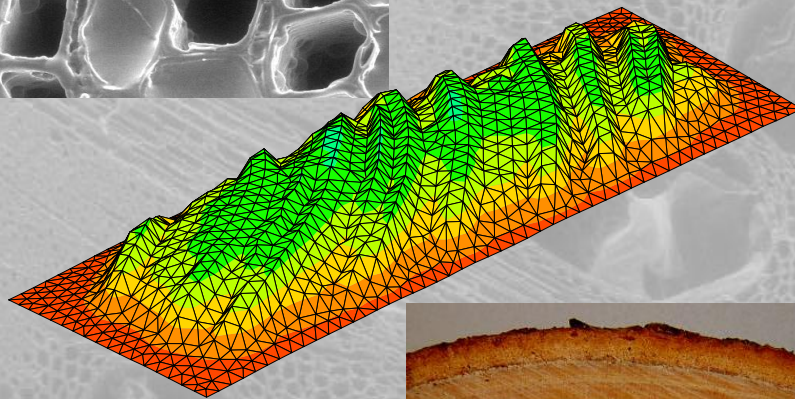
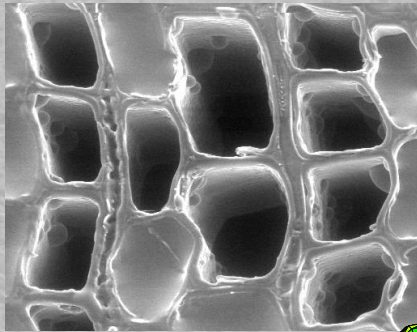


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**FUNDAMENTALS OF WOOD  
DRYING**



edited by  
**PATRICK PERRÉ**

### **About the book**

The present book originates from the work of WG 2 (Fundamentals aspects of wood drying) of COST action E15 (Advances in the drying of wood). It should be considered as a the state-of-the-art of fundamental knowledge concerning the phenomena involved in wood drying. The book contains 13 chapters :

- 1 - From fundamental to practice: the interaction chain
- 2 - Wood anatomy, an introduction
- 3 - Psychometrics
- 4 - Sorption isotherms in wood
- 5 - Shrinkage, swelling and warp caused by moisture changes
- 6 - Bound water migration in wood
- 7 - Fluid migration in wood
- 8 - Creep deformation in drying wood
- 9 - External heat and mass transfer
- 10 - Coupled heat and mass transfer
- 11 - Stress development
- 12 - Discoloration of wood during drying
- 13 - Airflow within kilns

Written by 14 European, 1 Australian and 1 Canadian experts, *Fundamentals of Wood Drying* is a reference book whose major aim is to provide sufficient knowledge to scientists and engineers to analyse and improve existing situations. The book also may be a first step in the development of innovative procedures that hopefully will enable drying practitioners to imagine, simulate, improve, and implement any new idea...

### **About the editor**

Patrick Perré is Professor at ENGREF (National Engineering School of Forestry), Nancy, where he teaches the physics and mechanics of trees and of wood. Vice-president of ARBOLOR the association for wood science in Lorraine, France, and fellow of IAWS (International Academy of Wood Science), his scientific skills include physics, anatomy, mechanics, chemical engineering and applied mathematics. His research expertise covers wood anatomy/wood properties and relationships, transfer in wood, wood rheology, wood drying and the thermal treatment of wood. On this complex object of study, he definitely considers that theory and practice must be combined. He also tries to promote multidisciplinary approaches in his research. Author or co-author of 81 papers in referred journals, 15 invited lectures with full text and 78 communications with full text at international conferences, 10 book chapters and 3 patents, Patrick Perré was awarded for the *Best Paper* in Drying technology Journal in 1996 and for *Innovation in Drying Research* in 2004. A graduate of the prestigious *Ecole Polytechnique* which collects the top engineering students throughout France, he received his PhD degree in Physics from the University of Paris 7 in 1987 and the *Habilitation à Diriger des Recherches* in Mechanical Engineering from INPL (Institut National Polytechnique de Lorraine), Nancy, France, in 1992.

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