



# INFRARED HEATING: AN ALTERNATIVE TO SOAKING?

Anna Dupleix

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# PHD IN WOOD TECHNOLOGY

## INFRARED HEATING: AN ALTERNATIVE TO SOAKING?

THÈSE EN SCIENCES DU BOIS: LA CHAUFFE INFRAROUGE, UNE ALTERNATIVE À L'ÉTUVAGE ?

### CURRENT VENEER MANUFACTURING PROCESS TO PRODUCE PLYWOOD

MODE DE FABRICATION ACTUEL DE PLACAGES POUR PRODUIRE DU CONTREPLAQÜÉ



#### Heating logs by soaking

(immersion into hot water) followed by transportation from basins to the lathe.



#### Peeling veneer

using knife cutting on a rotary peeling lathe.



#### Veneer &

End uses: ex: plywood, cheese box



#### Plywood manufacturing

from dried, glued and pressed veneers  
End uses: ex: furniture

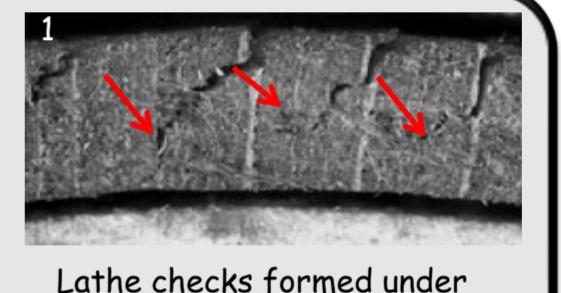


Why heating?



#### To soften wood prior to peeling it!

and increase its deformability under the cutting knife, lowering cutting efforts and improving veneer quality (reduced lathe checks formation).



Lathe checks formed under the action of the cutting knife.



#### Soaking disadvantages

- Time-consuming
- Empirical
- Environmentally costly



#### Infrared advantages

- Penetrates into green wood
- Fast heating
- Possible in-line implementation
- Flexible energy distribution



How?



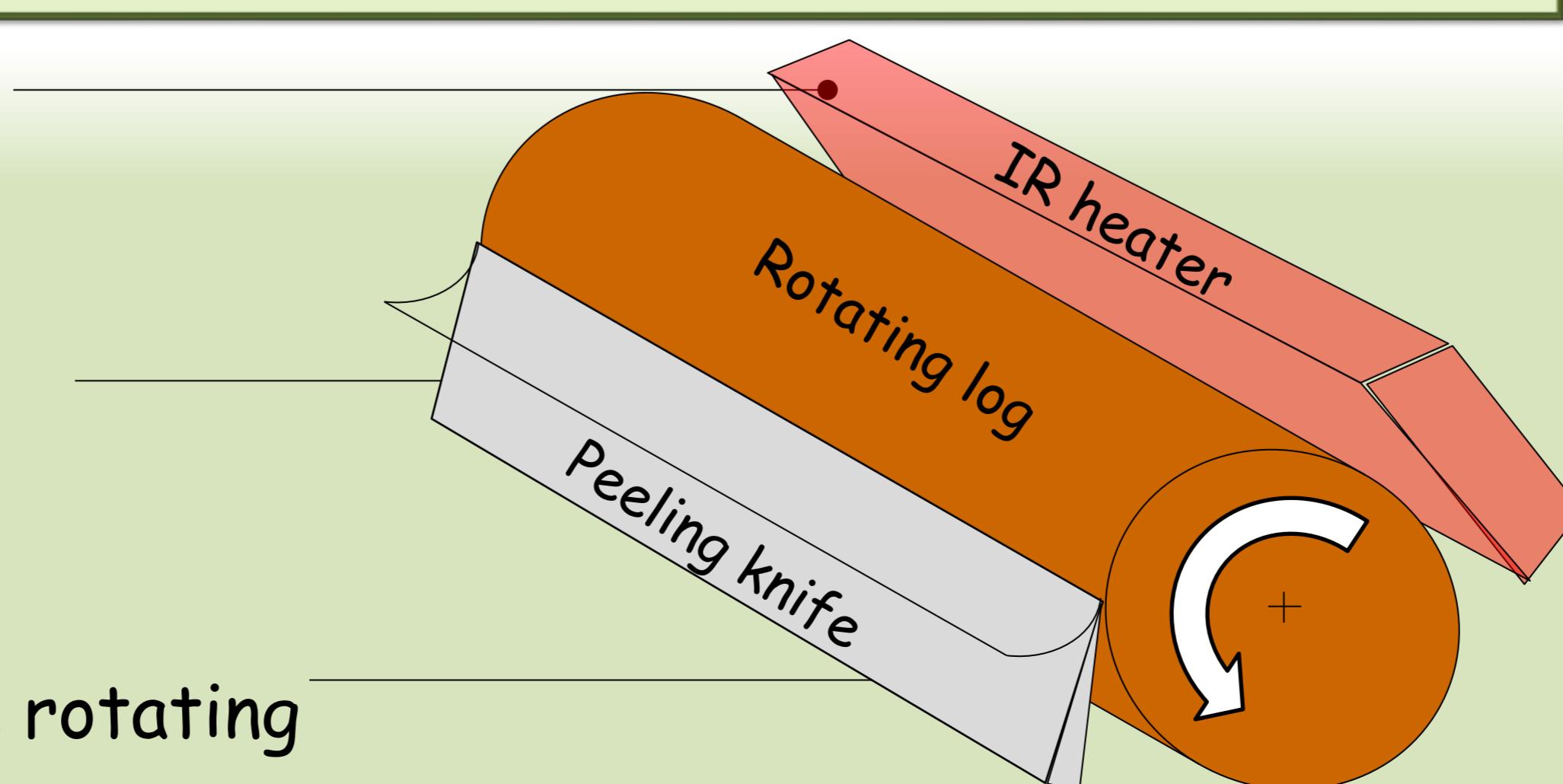
#### Developing in-line Infrared heating system

the goal of this PhD is to build up a prototype of IR heating system on the lathe and compare veneer quality and cutting efforts compared with the soaking method.

Infrared heater

embedded in the peeling lathe

heating wood while rotating



Thèse en co-tutelle internationale  
France-Finlande

**ARTS ET MÉTIERS**  
ParisTech  
Cluny

rue Porte de Paris  
71250 Cluny - France

**A!**  
Aalto University

Otaniementie 9  
02150 Espoo - Finland



by Anna Dupleix  
anna.dupleix@ensam.eu