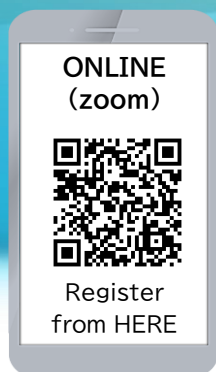


Towards wood ethno-bio-physics - Bridging craft knowledge and wood science to highlight diversity and complexity

6/25 (WED), 2025 12:30-13:20



- **Mission5** Quality of the Future Humanosphere
- **Mission4** Development and Utilization of Wood-based Sustainable Materials in Harmony with the Human Living Environment



Iris Bremaud

- Visiting Professor, RISH
- Senior Researcher, CNRS – French National Centre for Scientific Research



- ✧ Wood diversity
- ✧ Craftsmanship
- ✧ Wood physics
- ✧ Functionality and Aesthetics
- ✧ Interdisciplinarity

Wood has always accompanied humankind, and its selection is based on a complex combination of physical-mechanical, aesthetical, environmental and historical-cultural parameters. Artisanal uses of wood involve deep technical and cultural knowledge based on the relation of humans with woods and concern a high degree of biodiversity. However, although crafts recently attract increasing interest in society and in research, there are still relatively few links made with wood material science. This talk will introduce some possible methodologies to bridge craftsmanship knowledge and wood physics, starting by case studies on wood utilizations in artisanal making of various musical instruments, then broadening to diverse woodcrafts. We will talk about the utility of constructing specific databases in order to connect biological, physical and cultural diversity, and how this can highlight some types of wood with very atypical properties. We wish to propose some thoughts on two aspects that are central

In woodcrafts: time and temporalities, and functionality and aesthetics. To conclude we wish to stress out the importance of preserving both the biodiversity of woods and the cultural diversity of crafts for the future.

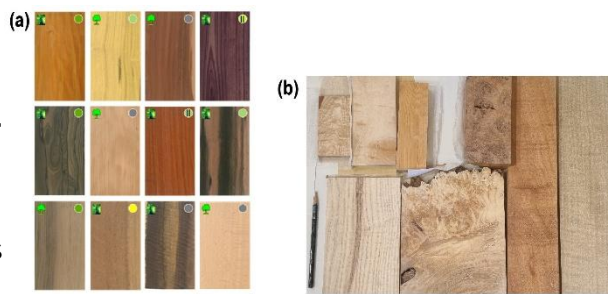


Figure 1. Wood selection in crafts: diversity between species (a. diversification in guitar-making) and complexity within species (b. samples of Japan's figured woods). Photos I. Brémaud and RISH.

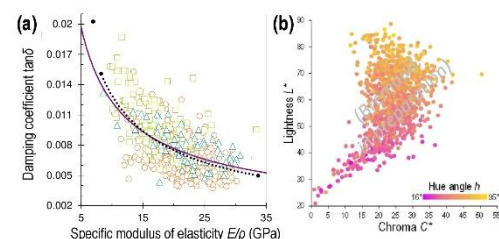


Figure 2. Databases of diversity in wood properties: (a) vibrational properties on 450 species (Brémaud 2012 JASA), (b) colorimetric parameters on 1000 species (Brémaud, article in preparation 2025).

The "open seminar" is a casual research meeting during lunch time on Wednesdays, with the aim of sharing research results, and enhancing collaborations.

https://www.rish.kyoto-u.ac.jp/open_seminar_2022/

