Repair and conservation of old wooden constructions and furniture at TEI Larissa - Greece Education and activities

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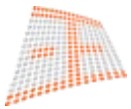
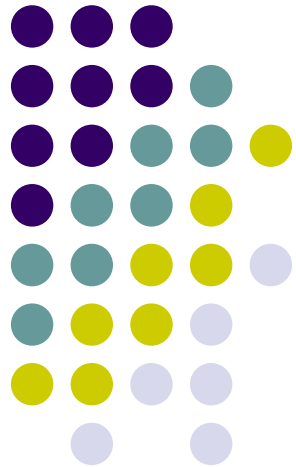




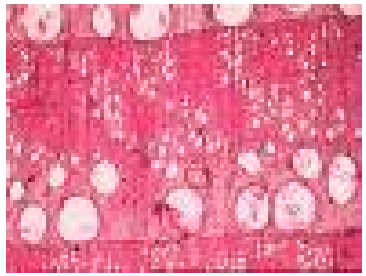
Dept. of Wood & Furniture Design & Technology

- It belongs to the **Tech. Edu. Inst. of Larissa**
- It is based in **Karditsa**
- It awards **Bachelor degrees** with special emphasis to:

  Wood technology, Furniture production technology and Furniture design

Dept. of Wood & Furniture Design & Technology:

Courses related to COST Action IE0601



Wood structure

Wood properties

Identification of wood

Wood products technology

Technology of wooden constructions

Repair and conservation of old furniture and wooden constructions

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Primary Educational Goals:

- Acquisition of knowledge on *wooden furniture*.
- Know-how of techniques for *furniture repair and conservation.*
- Know-how of techniques for *wooden constructions repair and conservation.*
- Acquisition of basic skills on *production technologies for wooden constructions* (timber-frame houses, outdoor wooden structures etc).

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Techniques & Methodologies:

- Preservation and repair materials.
- Machinery and tools used.
- Removal of old coats.
- Lab work on the application of simple conservation techniques *(treatments with insecticides and fungicides, linseed oil - Danish oil - teak oil - paraffin oil treatments).*

- Lab work on old furniture finishing and treatments *(sanding, French finishing by padding thin layers of Shellac, bee-waxing technique etc).*

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Applied projects:

- Our Lab is at the beginning. We are trying to extent our activities in applied research and study of wood structures in **Greek Orthodox churches and monasteries** *(Mount Athos, Meteora and other).*

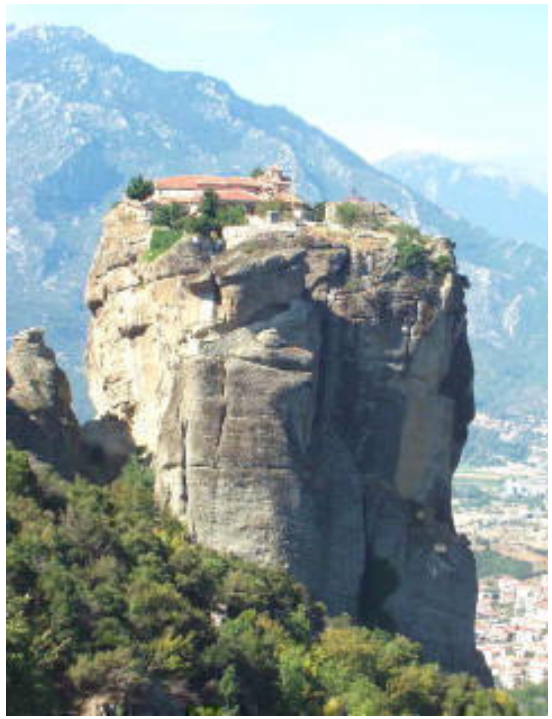
- Study of old buildings & houses wooden constructions *(roofs, balconies, floors, ceilings, doors, windows etc)* concerning the assessment and diagnosis of damages as well as methods for repair and conservation.

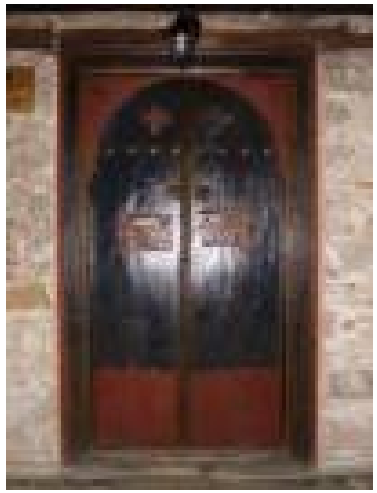
Most recent project:

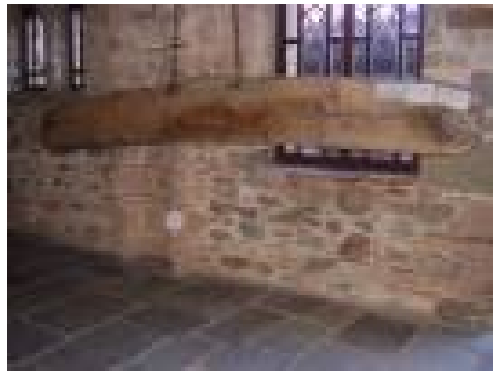
❖ ***Study of the Meteora wooden constructions***

Study of the Meteora wooden constructions

by N. Paggitoulis and I. Kakaras







Study of the Meteora wooden constructions

by N. Paggitoulis and I. Kakaras

Large longitudinal checks on a wooden element (15th-16th century)

Oakwood door that needs conservation

All kinds of surface degradation on a wooden column (fungi attack, wormholes, checks and weathering degradation).

- The degradation is serious, but is limited to a surface layer of 5-15 mm. Suggested actions is first the ***removal of the rotted layer*** and then ***a preservative treatment + oil treatment*** and finishing work.

Study of the Meteora wooden constructions

by N. Paggitoulis and I. Kakaras

Rot and wormholes on the surface layer of an Oak structural element.

Conclusions from the assessment of old timber structures in the Meteora monasteries:

- 14th-17th century wooden structures made mainly from Oakwood *(Quercus aegilops)*, with heartwood highly resistant to biological attacks and weathering. The majority of structures include: *roofs, balconies, ceilings, doors, wall fasteners, external ladders and also ecclesiastic furniture and artworks.*
- Most building wooden structures have undergone ***a moderate to severe attack by fungi or insects*** or both, and mostly weathering. Because of this, many constructions have been destroyed and replaced by new.

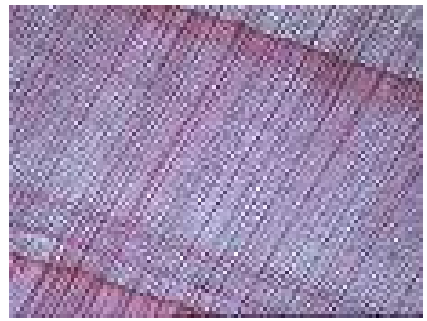
Conclusions from the assessment of old timber structures in the Meteora monasteries:

- Need for an *extensive degree of conservation*. Wood building structures in Meteora, among others, ***require*** *treatments with insecticides and fungicides, oil-based preservatives, boiled linseed-oil treatment or with Danish oil or teak oil.*

- With the above-mentioned treatments, we can ***protect these wooden constructions from future fungi & insect attacks*** and additionally increase their ***dimensional stability.***

Areas with scientific interest in Greece:

- **Identification of wood** in ancient monuments and tombs from the Classic and Pro-Classic period; most of this archaeological wood is kept in museums.



- **Repair and conservation** of old buildings and houses, old monasteries, churches and chapels.
- **Conservation of old furniture.**

- Study of **old water-logged wood** and **shipwrecks**; for this, a cooperation with the Greek Archaeological Service is needed.

Thank you for your attention !

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