

Name First Name: **Prof. George Mantanis** (*PhD, Dipl.*)
Function: Faculty member, Laboratory of Wood Technology
Department of Wood & Furniture Design and Technology ([WFDT](#))
website: http://www.wfdt.teilar.gr/en/index_en.php
Affiliation: Technological Education Institute (TEI) of Larissa at Greece
Address: Branch of Karditsa, Griva Str. 11
Postal Code, City: 43100, Karditsa
Country: **GREECE**
Email: mantanis@teilar.gr
Website: <http://users.teilar.gr/~mantanis/en.htm>

Involvement in the COST Action: Member of MC, Member of WG1

Research interests in several topics such as: a) colour changes in wood surfaces modified by new nanoparticulate based treatments, b) sorption studies of water vapour in modified wood (acetylated, heat-treated, oil-treated etc), and c) laboratory developments of nano compounds for wood protection against UV & fungi, as well as fire retardancy (using halogen-free nano compounds).

Specialised technique available in our Laboratory

Lab equipment

- *local*
 - Xenon test and weathering test equipment
 - Gas chromatography / Mass spectroscopy
 - Lab press & pilot plant for glued wood products
 - Zwick complete mechanical test apparatus
 - Pilot-scale impregnation chamber
 - Wood wetting equipment
 - Colourimeter
 - Pilot-plant kiln dryer
 - Large-scale conditioning room
 - Soil-test area & weathering testing area

- *through local network*
 - DSC, GC, Nanotech pilot plant
 - Micro centrifuge
 - HPLC, NMR and FTIR

Additional comment

The TEI/L research team focuses its research on intelligent utilisation of wood and the development of eco-friendly products and processes.

Research team

Dr. Antonios Papadopoulos (TEI of Kavala, Greece)
Dr. Ioannis Arabatzis (NanoPhos SA, Lavrio, Greece)
Dr. Charalambos Lykidis (Forest Research Institute, NAGREF, Athens) &
Ass. Prof. Turgut Sahin (SDU Turkey), &
Dr. Olga Gortzi, chemist, Lab of Analytical Chemistry (TEI of Larissa)

Current relevant publications

Mantanis, G. and D. Jones (2012). [Innovative modification of wood with nanoparticulate treatment](#). The Sixth European Conference on Wood Modification, ECWM6 (*to be made*), 16-18 Sept. 2012, Slovenia.

Sahin, T.H. and G. Mantanis (2011). [Colour changes in wood surfaces modified by a nanoparticulate based treatment](#). *Wood Research* 56(4): 525-532

Sahin, T.H. and G. Mantanis (2011). [Nano-based surface treatment effects on swelling, water sorption and hardness of wood](#). *Maderas. Ciencia y tecnologia* 13(1): 41-48

Papadopoulos, A. and G. Mantanis (2011). [Surface treatment technologies applied to wood surfaces](#). *Journal FDM Asia – Solid Wood and Panel Technology* (May/June issue, 2011)

Mantanis G.I. and A. Papadopoulos (2010). [The sorption of water vapour of wood treated with a nanotechnology compound](#). *Wood Science and Technology* 44 (3): 515-522

Mantanis G.I. and A. Papadopoulos (2010). [Reducing the thickness swelling of wood based panels by applying a nanotechnology compound](#). *European Journal of Wood and Wood Products* 68: 237-239