



Ollscoil na hÉireann, Gaillimh
National University of Ireland, Galway

COST FP1101
WG2 Workshop
Telc, June 21, 2013
Assessment, Reinforcement and Monitoring of
Timber Structures

COST FP1101

Working Group 2: Reinforcement of Timber Structure

Workshop No. 2:
Telc, Czech Republic
June 21, 2103

WG2 Reinforcement of Timber Structures

Primary objective:

Advance methods & disseminate knowledge regarding reinforcement of timber structures

Secondary objectives:

- Improve maintenance of existing structures and make them fit for future use
- Disseminate up-to-date results
- Optimise collaboration

WG2 – Membership

- 50 members from 15 countries

Country	No	Country	No	Country	No
Belgium	3	Greece	3	Spain	1
Croatia	1	Ireland	2	Sweden	2
Estonia	2	Italy	11	Switzerland	5
France	4	Portugal	2	FYR Macedonia	1
Germany	4	Slovenia	3	UK	6

Scientific Activities WG2

- Identify & categorize types of deterioration, damage & failure
- Create handbook of reinforcement solutions for main categories of problems
- Analyse relationship between reinforcement techniques and protection technologies
- Evaluate solutions wrt seismic performance and preservation of cultural heritage
- Develop computational design tools

Joint Workshop with FP1004 on Bonded-in Rods in Timber Structures

- Held in Wroclaw on 18-19 October 2012
- 54 scientific and industrial participants from the two COST Actions (26 from FP1101)
- Day 1: 12 presentations followed by extensive discussion
- Day 2: Focus group meetings on the topics
 - Applications of bonded-in rods and plates
 - Design rules
 - Quality control

Outcome of Workshop

- FP1004 Task Group established to review state of the art in bonded-in rods
- WG Leader represented WG1101
- Survey of users of bonded-in rods – ongoing
- Abstract submitted to CIB W18 meeting entitled:
Comparison of existing design rules for bonded-in rods and a proposal on a procedure for their implementation in European standards

State-of-the-art report on the reinforcement of timber structures

Section 1: Background

Section 2: Application areas

- Reinforcement of timber beams and floor systems
- Reinforcement of timber trusses and roof structures
- Reinforcement of timber columns and wall systems
- Reinforcement of traditional carpentry joints
- Reinforcement of dowel type connections
- Seismic retrofitting of timber structures

Section 3. Reinforcement methods and materials

- Adhesives/resins
- Bonded-in rods
- Self-tapping screws (inclined screws)
- Fibre reinforced polymers
- Concrete
- Steel members
- Timber as reinforcement
- Nanotechnology and smart materials for reinforcement of timber

- **Session 1**

Welcome/Introduction

1. Reinforcement of timber columns and wall systems - Wen-Shao Chang
2. Reinforcement of notches with self-tapping screws - Robert Jockwer
3. Analysis and strengthening of birdsmouth joints-
Jorge Branco

- **Session 2**

4. Comparison of different strengthening techniques for delaminated glulam beams - Robert Widmann

5. Nanotechnology and smart materials for reinforcement of timber structures – Clara Bertolini/Tanja Marzi

6. FRP reinforcement of timber structures – Annette Harte, Kay-Uwe Schober

Session 3

7. Residual load capacity of cracked members -
Noëlie Magniere

8. A computer-based decision tool for choosing an
appropriate reinforcement method - Teresa Artola
Guijarro

9. Repair of fractured timber beams – Presentation
and practical demonstration - Dave Smedley

10. Future Planning

Scientific Activities WG2

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Future Plans

- Publish STAR report (Autumn 13)
- Special edition journal
- STSMs
- Development of an IT-based decision tool for selection of appropriate reinforcement method
 - Joint Task group with WG1
- Special session PROHITECH14 + WG2 meeting?

STSMs

Offers to host from following:

1. Institute of Earthquake engineering and Engineering Seizmology, University 'Ss Cyril and Methodius', Skopje, Macedonia
2. University of Minho, Portugal
3. National University of Ireland, Galway (2 applications in preparation)

Upcoming Conferences



UNIVERSITY
OF TRENTO - Italy
Department of Civil, Environmental
and Mechanical Engineering



CNR-IVALSA
TREES AND TIMBER INSTITUTE



cost
EUROPEAN COOPERATION
IN SCIENCE AND TECHNOLOGY



SHATIS'13



**2nd International Conference
on Structural Health Assessment
of Timber Structures**

Trento (Italy), September 4-6, 2013


cost
EUROPEAN COOPERATION
IN SCIENCE AND TECHNOLOGY


COST FP1101 – Assessment, Reinforcement and Monitoring of
Timber Structures

Upcoming Conferences

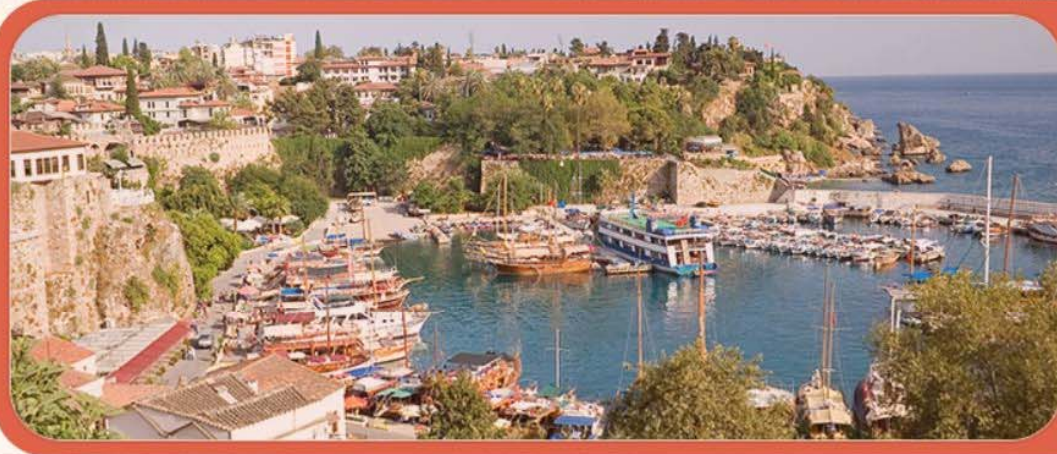
2ND INTERNATIONAL CONFERENCE ON PROTECTION OF HISTORICAL CONSTRUCTIONS
7 - 9 MAY 2014, ANTALYA - TURKEY


PROHITECH'14

 BOÇAZICI UNIVERSITY

 UNIVERSITY OF NAPLES "FEDERICO II"

IMPORTANT DATES	
30	June '13 Abstract Submission Deadline
31	July '13 Notification of Abstract Acceptance
15	January '14 Full Paper Submission Deadline
28	February '14 Early Registration Deadline



 **Special Session in honour of Victor Gloncu**
'Engineering and Architecture: The Everlasting Synergy for Marvels'

WELCOME TO 2ND INTERNATIONAL CONFERENCE on PROTECTION of HISTORICAL CONSTRUCTIONS

The main scope of PROHITECH is to highlight the importance of use of advanced technologies in the protection of historical structures which are prone to natural and man-made hazards. The first conference was held in Rome, 2009.

Gülay ALTAY (Turkey)
Conference Co-Chair

Federico MAZZOLANI (Italy)
Conference Co-Chair