



TU1406

COST ACTION

QUALITY SPECIFICATIONS FOR ROADWAY BRIDGES,
STANDARDIZATION AT A EUROPEAN LEVEL



ESF provides the
COST Office through a
European Commission contract



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Programme



Training School - Thessaloniki

Training School on Bridge Quality Control

01st – 04th October, 2018

Organizers

Lab of Planning and Project Management
Department of Civil Engineering
Aristotle University of Thessaloniki

Egnatia Odos SA

Thessaloniki, Greece

ACTION CONTACTS

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1. TRAINING SCHOOL

1.1. OBJECTIVES

The objective of the COST TU1406 Training School-Thessaloniki is to spread the latest knowledge and development acquired by the Action in the topic of performance-based assessment and quality control of existing concrete road bridges. The school aims at teaching the most recent knowledge on performance bridge assessment procedures with the adoption of specific goals. Other objectives may be listed, such as: (i) to validate the proposed framework with a set of inspectors with experience from bridge assessment in practice and (ii) to develop some exchange of knowledge between participants.

1.2. SCOPE

The training school is organized by Egnatia Odos AE, Aristotle University of Thessaloniki, Greece and in cooperation with University of Thessaly, Greece.

Venue: Department of Civil Engineering, School of Engineering, Aristotle University Of Thessaloniki

Time: 01 – 04 October 2018

Organizing Committee

Yiannis Xenidis

Aristotle University of Thessaloniki, School of Engineering, Department of Civil Engineering

Panagiotis Panetsos

EGNATIA ODOS SA

José C. Matos

Minho University, School of Engineering, Civil Engineering Department, Guimarães, Portugal

Trainers

Rade Hajdin

IM Consultants. University of Belgrade, Serbia

Amir Kedar, Kedmor Engineers Ltd, Israel

Panagiotis Panetsos. EGNATIA ODOS SA, Greece

Costas Papadimitriou

Department of Mechanical Engineering, University of Thessaly, Greece

Yiannis Xenidis

Department of Civil Engineering, School of Engineering, Aristotle University of Thessaloniki, Greece

The training school will cover the topics of concrete bridge performance assessment and inspection techniques.

1.3. ABOUT THESSALONIKI

Thessaloniki is the second-largest city in Greece, with over 1 million inhabitants in its metropolitan area, and the capital of Macedonia, the administrative region of Central Macedonia and the Decentralized Administration of Macedonia and Thrace. Thessaloniki is located on the Thermaic Gulf, at the northwest corner of the Aegean Sea. It is bounded on the west by the delta of the Axios river.

The municipality of Thessaloniki, the historical center, had a population of 325,182 in 2011, while the Thessaloniki Urban Area had a population of 788,952 and the Thessaloniki Metropolitan Area had 1,012,297 inhabitants in 2011.

Thessaloniki is Greece's second major economic, industrial, commercial and political centre; it is a major transportation hub for Greece and southeastern Europe, notably through the Port of Thessaloniki. The city is renowned for its festivals, events and vibrant cultural life in general, and is considered to be Greece's cultural capital.

The city of Thessaloniki was founded in 315 BC by Cassander of Macedon. An important metropolis by the Roman period, Thessaloniki was the second largest and wealthiest city of the Byzantine Empire superseded only by the capital Constantinople. It was conquered by the Ottomans in 1430, and passed from the Ottoman Empire to Greece on 1912.

Thessaloniki is home to numerous notable Byzantine monuments, including the Paleochristian and Byzantine monuments of Thessaloniki, a UNESCO World Heritage Site, as well as several Roman, Ottoman and Sephardic Jewish structures. The city's main university, Aristotle University, is the largest in Greece and the Balkans.

Thessaloniki is a popular tourist destination in Greece. In 2013, National Geographic Magazine included Thessaloniki in its top tourist destinations worldwide, while in 2014 Financial Times FDI magazine (Foreign Direct Investments) declared Thessaloniki as the best mid-sized European city of the future for human capital and lifestyle. Among street photographers, the centre of Thessaloniki is also considered the most popular destination for street photography in Greece.

1.4. PROGRAMME

Monday, 01 October 2018

When	What
09:00 – 09:30	Opening
09:30 – 10:30	Lecture <i>Dr. Panagiotis Panetsos</i> Overview of bridge inspection and SHM systems applied in Egnatia Odos
10:30 – 10:45	Coffee-Break
10:45 – 12:30	Lecture <i>Prof. Rade Hajdin</i> Introduction in performance based assessment of girder beam bridges
12:30 – 13:30	Lunch
13:30 – 15:00	Lecture and Exercise <i>Mr. Amir Kedar, Dr. Panagiotis Panetsos</i> Performance based assessment of girder beam bridges
15:00 – 15:15	Coffee-Break
15:15 – 16:30	Lecture and Exercise <i>Mr. Amir Kedar, Dr. Panagiotis Panetsos</i> Performance based assessment of girder beam bridges

Tuesday, 02 October 2018

When	What
09:00 – 10:00	Lecture <i>Prof. Costas Papadimitriou, Dr. Panagiotis Panetsos</i> Ambient vibration based modal identification and bridge model updating. Basics from theory, Bridge cases

10:00 – 10:15	Coffee-Break
10:15 – 12:00	Lecture <i>Prof. Rade Hajdin</i> Introduction in performance based assessment of framed beam bridges
12:00 – 13:00	Lunch
13:00 – 14:30	Lecture and Exercise <i>Mr. Amir Kedar</i> Performance based assessment of framed bridges
14:30 – 14:45	Coffee-Break
14:45 – 16:00	Lecture and Exercise <i>Mr. Amir Kedar</i> Performance based assessment of framed bridges

Wednesday, 03 October 2018

When	What
09:00 – 17:00	Group exercise <i>Prof. Rade Hajdin, Prof. Yiannis Xenidis, Prof. Costas Papadimitriou, Dr. Panagiotis Panetsos, Mr. Amir Kedar</i> Bridge inspection and diagnostics in two bridges (figures below) including: <ul style="list-style-type: none"> – Visual inspection by the use of boom lift – Site testing, catastrophic and non catastrophic on bridge site (ultrasonic, shmidt hammer and core drilling testing) – Ambient vibration monitoring by installing and measuring vibrations by the use of servo-accelerometers, in combination with strain monitoring (using electric foil and vibrating wire strain sensors) will be demonstrated on the bridge site – Demonstration of maintenance tasks on site (dependent on the progress of previous scheduled maintenance tasks)



Thursday, 04 October 2018

When	What
09:00 – 10:00	Lecture <i>Prof. Yiannis Xenidis</i> Quality appraisal methodologies with the use of performance indicators: Application of the SB method for bridges

10:00 – 10:15	Coffee-Break
10:15 – 12:45	Exercise - Performance based assessment of girder beam bridges Presentations and discussion of results
12:45 – 13:45	Lunch
13:45 – 15:15	Exercise - Performance based assessment of framed bridges Presentations and discussion of results
15:15 – 15:30	Coffee-Break
15:30 – 16:00	Conclusions and Short Report Development
16:00 – 16:15	Closing

1.5. LOCATION, DATES AND TRAVELLING

1.5.1. LOCATION AND DATE

The school will be hosted between October, 1st – 4th, at the Department of Civil Engineering, School of Engineering, Aristotle University of Thessaloniki (Web: <http://www.civil.auth.gr/en/>).

1.5.2. HOW TO GET TO THESSALONIKI

Airport location: International Airport “Macedonia” (SKG) is the airport terminal of Thessaloniki. It is located 16 Km outside the city and its distance from the City centre is around 20 Km, depending on the selected route.

Direct flights: Thessaloniki is conveniently connected through direct flights with Basel, Belgrade, Berlin, Brussels, Budapest, Cologne, Dortmund, Dusseldorf, Frankfurt, Freiburg, Hamburg, Hanover, London, Milan, Moscow, Mulhouse, Munich, Nuremberg, Oslo, Paris, Rome, Stockholm, Stuttgart, Vienna and Zurich.

1.5.3. HOW TO GET TO THE VENUE

The transportation means in Thessaloniki are public busses and taxis; however, distances are relatively short and it is common for visitors to walk to their destination and at the same time explore a lively city centre. The public transport (bus) destination to the venue from the city centre (direction to the University of Macedonia) is AHEPA (right opposite to the School of Engineering, AUTH – See Map). For the ticket fare you can get information from: <http://oasth.gr/#en/fares/>.

Travelling from the airport: you can take the public **bus 01X** (route: Airport – Intercity Bus Terminal (via City Centre)) to *University of Macedonia* station (direction to the Arch of Galerius). From there the venue is in a 10 minutes walking distance (see Map). The ticket fare from the airport is 2€ for 90 min.

Travelling by car: you can park your car in the parking zones around the School of Civil Engineering. Previous notice to the organizers is required for managing access processes.

1.5.4. USEFUL INFORMATION

Currency exchange / euro information / ATMs

In Greece all transactions are made using the euro. The usual commission rate is estimated at 2.5% and credit card charges at 1.5% - 5% depending on the service and affiliation. ATMs are abundantly

located in the Thessaloniki International Airport (SKG), and in numerous spots everywhere in the city itself. Exchanges can be made right at the SKG at the services located in the Arrivals Hall, or in exchange bureaus located at convenient spots in the city center (please check: <http://www.vrisko.gr/en/dir/foreign-currency-exchanges/thessaloniki/>).

Time zone

Thessaloniki, located at 40°38'N/22°57'E, belongs to the EET (Eastern European Time) zone.

Emergency and useful contact / phone numbers

The dial code for international calls is +30, followed by the particular prefix of each country and region. The general prefix for Thessaloniki is 2310, with exceptions depending on the case and service provider. Some emergency dial numbers are different, shorter and in no need of a prefix. A comprehensive emergency and useful contact list is following:

- Emergency police number: 100
- Tourist police (information available in English, French and German): 2310 554871
- Greek National Tourist Organization: 2310 222935 / 2310 271888
- SKG Tourism Information Office: 2310 471170
- SKG Information Center: 2310 473212, 2310 473312
- SKG Flights information: 2310 473977, 2310 473720
- Railway Station Call Center: 1110
- Bus Information Center: 185
- Long Distance Buses (KTEL) Information Center: 2310 595408
- Tourist Information on Sea Transport of the Thessaloniki Port Authority: 2310 593120
- Ippokrateio General Hospital (49 Kostantinoupoleos Str.): 2310 837921-9
- Ahepa General Hospital (1 S. Kiriakidi Str.): 2310 993310, 2310 993111
- G. Gennimatas General Hospital (41 Ethnikis Aminas Str.): 2310 211221-2, 2310 211323-5, 2310 211426-9, 2310 212019, 2310 212051

Taxi and bus rates for travelling within the city

The normal taxi tariff is 3.20 € at the taxi start and then 0.70 € per km and 10.50 € per waiting hour. The tariff can be increased or even doubled during holidays and night hours, depending on the season.

It should be noted that reservation fees depend on the particular taxi service, which is contacted and the time in which the taxi is booked in advance.

The bus fare varies on the anticipated time of travel. A single ride costs 1.20€, when the ticket is purchased from the device inside the bus (no changes are returned) or 1.00€ when it is bought from kiosks and the respective transportation booths. The normal bus fare from the airport is 2.00€. More details on costs and bus route information can be found here: <http://oasth.gr/#en/services/>.

Electrical adapters

Participants coming from countries with 110V or 120V electricity, will find that their electric accessories cannot work in Greece, where 220V (50Hz) electrical outlets are standard. An electrical adaptor will be needed for any piece of equipment to be plugged into the Greek electrical outlets. The plug types befitting the latter are B, B3, C and SE, with the most common being B and SE.

Weather conditions and casual clothing recommendations

Greece in general is in the temperate Mediterranean climate zone. For the beginning of October of 2018, the average expected temperature in Thessaloniki will be 20°C and the weather is expected to be sunny but with probabilities for rain as well. For early forecast details you can visit www.accuweather.com/en/gr/thessaloniki/.

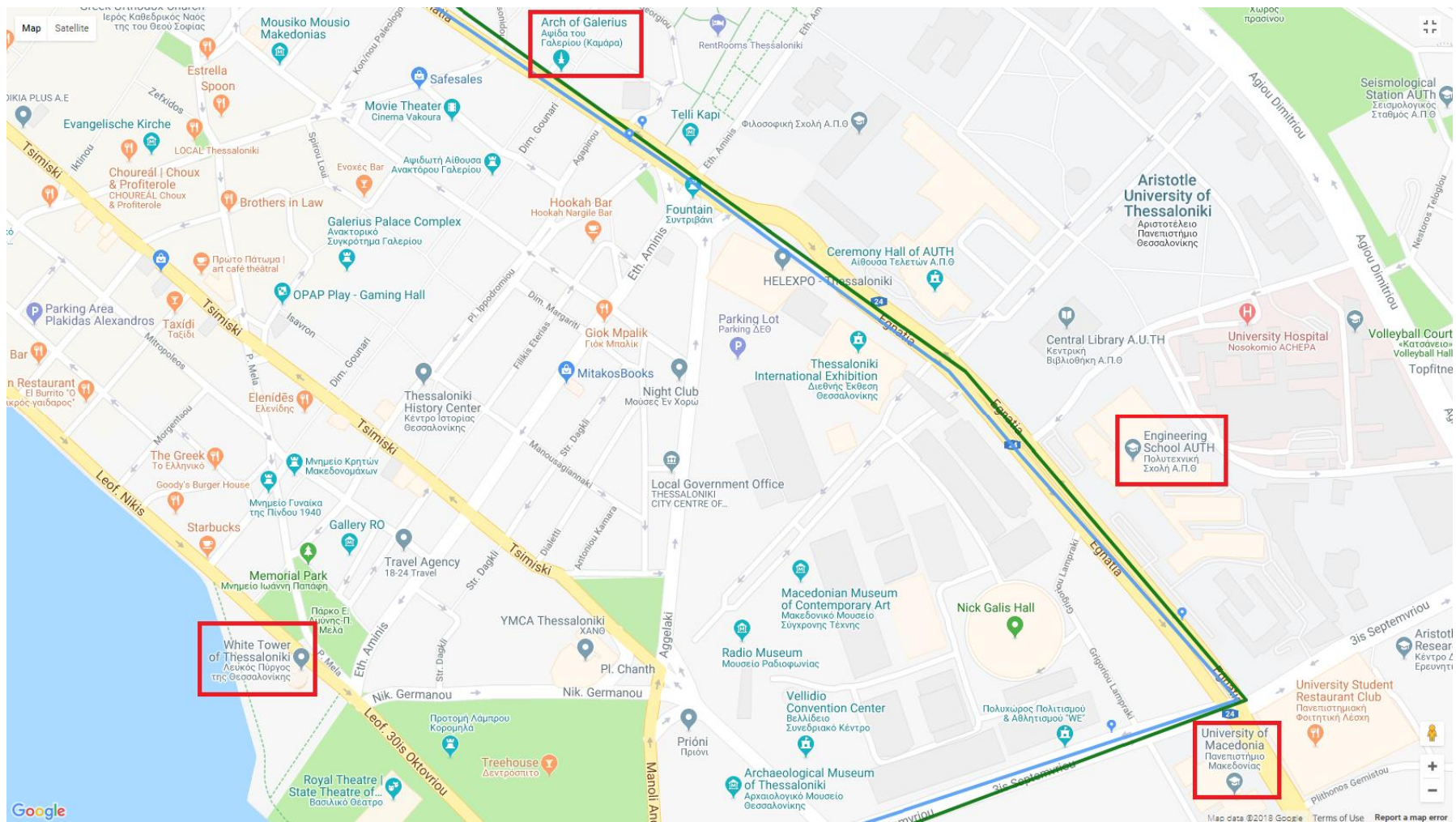


Figure 1. Venue location (Engineering School AUTH) in relation to key city spots nearby. The destination to the Arch of Galerius is towards the city centre, while the destination to the University of Macedonia is towards the airport.

1.6. ACCOMMODATION

There are a number of reasonably priced hotels located close to the venue. Participants are advised to make their own research via hotels search engines of their preference. Just indicatively the following three options are highlighted:

ABC Hotel 3*

Angelaki 41, 54621, Walking distance: 1km

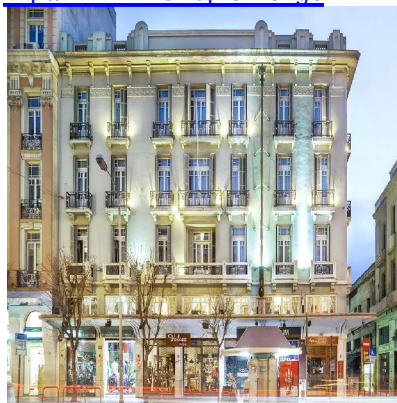
<https://hotelabc.gr/en/>



Hotel Minerva Premier 4*

Egnatia 44, 54625, Walking distance: 2.2km

<http://www.minervapremier.gr/>



Hotel Luxembourg 3*

Komnion 6, 54624, Walking distance: 2.3km

<http://www.hotelluxembourg.gr/>



Hotel Nea Metropolis 3*

22 Sigrou, 54630, Walking distance: 2.3km

<http://www.neametropolis.gr/>



1.7. COMMITTEES

An executive scientific committee as well an organizing committee were defined.

1.7.1. SCIENTIFIC AND ORGANIZING COMMITTEE

<i>Name</i>	<i>TU1406 Position</i>	<i>E-mail</i>
José C. Matos	Chair	chair@tu1406.eu
Rade Hajdin	MC member	rade.hajdin@grf.bg.ac.rs
Amir Kedar	MC member	akedar@kedmor.co.il
Yiannis Xenidis	MC member	ioxen@civil.auth.gr
Panagiotis Panetsos	WG member	panpanetsos@gmail.com

1.7.2. SECRETARIAT

<i>Name</i>	<i>TU1406 Position</i>	<i>E-mail</i>
Eleni Chatzi	Technical Secretariat	tecsec@tu1406.eu
Lara Leite	Administrative Secretariat	adminsec@tu1406.eu
Sergio Fernandes	Administrative Secretariat	sergio.cd.fernandes@gmail.com
Sofia Sofogianni	Local Secretariat	ssofogia@civil.auth.gr

1.7.3. LOCAL ORGANIZERS

<i>Name</i>	<i>TU1406 Position</i>	<i>E-mail</i>
Yiannis Xenidis	MC member	ioxen@civil.auth.gr
Panagiotis Panetsos	WG member	panpanetsos@gmail.com

2. HOW TO PARTICIPATE

2.1. REGISTRATION, FUNDING AND REIMBURSEMENT

A registration fee of 100€ is required for participating to the Training School. The registered trainees are entitled to coffee breaks and lunches during lectures as well as participation to the sites visits where bridge inspection activities will take place.

COST supports the participation of Trainees and Trainers for their attendance at approved Training Schools. 20 Trainees approved by the Organization/Management Committee, based on technical curriculum and on the COST policies on ESR (Early Stage Researcher), gender and inclusiveness country, are entitled to receive a fixed Grant of 700€ to fund their participation to the Training School.

2.2. INSTRUCTIONS AND TEMPLATES FOR PRESENTATIONS

Trainees are kindly asked to use the templates for their assignments, available at <http://www.tu1406.eu/thessaloniki>, in order to achieve a degree of coherency.

2.3. COPYRIGHT AGREEMENT, ISBN E-BOOK

Participants are kindly asked to accept copyright and publishing rules in order to allow organizers to publish and disseminate their assignments and presentations. This is determined by filling a specific form provided at <http://www.tu1406.eu/thessaloniki>. An e-Book will be published after the training school.



WWW.TU1406.EU