





## INTERNATIONAL SEMINAR:

# BRIDGES INSPECTION AND REHABILITATION TECHNIQUES





22-24 February 2023 Hotel MouradiGammarth in Tunis





## Organized in Cooperation by:

- PIARC
- Tunisian Road Association ATR
- Ministry of Equipment and Housing of Tunisia







## The PIARC Program and international seminars

PIARC (the World Road Association) is a non-profit, non-political organization whose mission includes organizing forums, disseminating good practices, and promoting efficient tools for decision support in road and road transport.

As part of its work, and since 1999, the Association has been organizing a program of international seminars which strengthens its presence in the world, its consideration of the needs of developing countries and countries in transition, and makes the results of the Association's work more widely known in these countries

## **Technical Committee CT 4.2 - Bridges**

The subject of resilience plays a significant role in the field of Bridges. Here, the focus is on questions of adaptation to the consequences of climate change and on improving the resilience of bridges in the case of seismic events. In addition, this technical committee works on further developing procedures and methods for bridge inspections and implementing these new technologies within bridge management systems. Lessons learned from forensic engineering of bridge collapses are also considered. Additionally, the use of innovative construction materials for the repair of aging bridges is addressed in this committee.

The work of the technical committee TC4.2 "Bridges" is based on the following issues:

- 4.2.1 Measures for increasing adaptability to Climate Change
- 4.2.2 Forensic engineering for structural failures
- 4.2.3 Advancement of inspection techniques/technologies and bridge management systems
- 4.2.4 New rehabilitation materials and technologies
- 4.2.5 Bridges damage-resilient in seismic areas

## **Objectives of the seminar**

The seminar will be led in such a manner to optimize the time available for discussion of the themes to generate dynamic and highly involved discussions among the participants. Presentations made by participants followed by discussion and collective development of conclusions and recommendations.

#### Who attends the seminar?

The PIARC Bridges seminar is intended for:

- engineers and managers from the Ministry of Equipment and Housing and the agencies under its supervision,
- technical designers and design offices,
- road network managers,
- suppliers of bridges materials maintenance,
- technical assistance offices, universities,
- and engineering students who are interested in the subject of engineering structures.







## **Seminar venue and dates:**

The seminar will take place from 22 to 24 February 2023 in Tunis, Tunisia.

Tunisia, located in the Maghreb region of North Africa, is bordered by Algeria to the west and southwest, Libya to the southeast, and the Mediterranean Sea to the north and east. The country also shares maritime borders with Italy. It has an area of about 164,000 km² and a population of 12 million. Its coastline is approximately 1,150 km long. The capital of Tunisia is the city of Tunis. Tunisia is a tourist destination full of fascinating attractions.

## **Course and languages of the seminar:**

The seminar will be divided into several sessions and integrate several themes in the program below. The sessions will be organized for two days. Each session will consist of several presentations by members of the Technical Committee 4.1 and Tunisian and international experts. At the end of each session, a debate will be opened to discuss the different topics addressed in the presentations.

The languages used in the seminar will be **French and English with simultaneous translation**.

## **Program**

Wednesday, February 22th 2023			
9:00 to 9:30	Welcoming and Registration of Participants		
	Opening session		
9:30 to 10:15	Welcoming speech and moderation	Lilia Sifaoui	
	President of the Tunisian Road Association	Aida Bergaoui	
	First delegate of PIARC, Tunisia	Slah Zouari	
	PIARC Institutional presentation	PIARC General Secretariat	
	The Technical Committee TC4.2 "Bridge"	Kiyohiro IMAI, Chair of TC 4.2	
	The Opening of the Seminar (to be confirmed)	Minister of Equipment and Housing	
10:15to 10:45	Tea / Coffee break		







## Wednesday, February 22th 2023

10:45to 12:50 (25min./speaker)	Technical Session 1: Bridge Inspection system.  Moderator: Pierre GILLES Impacts of lack of bridge inspection in Tunisia: Lilia Sifaoui, - Ministry of Equipment and Housing, Tunisia  1. Principal bridge inspection in Austria:     Erwin PILCH, ASFINAG, Austria  2. Principal bridge inspection in Netherlands:     Marcel KRAUS, Department of Public Works, Netherlands  3. Principal bridge inspection in Portugal:     Sergio PEREIRA, Infrastructures of Portugal, Portugal  4. Principal bridge inspection in Morocco:     Hajar ZOUBIR, National Center for Road Studies and Research,     Morocco
12:50to 13:20	Debate: questions and answers
13:20to15:00	Lunch
15:00to 17:05 (25min./speaker)	Technical Session 2: Inspection techniques, monitoring and assessment  Moderator: Ghazi CHERIF - Ministry of Equipment and Housing Tunisia  1. Rades La Goulette Bridge inspection and monitoring: Hatem KHENNICHI TUNILABO Laboratory, Tunisia & Sebastian PIOT, International Business Manager, SITES France.  2. Advancement of inspection techniques / technologies: MatejKusar, DRI Investment Management Ltd., Slovenia.  3. Bridge design towards improved inspection and maintenance: Gonzalo ARIAS HOFMAN, INES Engineering, Spain  4. Digitalization of Bridge Inspection & Monitoring: Gil HEUNGBAE, Korea Expressway Corporation, South Korea  5. Bridge Asset Management – The French national referential, Florent PLASSARD, CEREMA (French Road Laboratory), France
17:05to 17:30	Debate: questions and answers
From 19:00	Gala dinner with optional participation in the restaurant







	Thursday, February 23th 2023
09:00 to 10:30 (30min./speaker)	<ul> <li>Technical Session 3: Bridge Rehabilitation</li> <li>Moderator: Nicolas BARDOU, Vinci, France</li> <li>Mont-Plaisir Overspass: Case study anf lessons learned: Ridha MAHJOUB &amp; Karim BEN ABDESSALEM, CETA / GIS Tunisia.</li> <li>Innovative bridge rehabilitation techniques:         <ul> <li>Pierre GILLES, SPW Mobility and Infrastructure, Belgium</li> </ul> </li> <li>Rehabilitation and Reconstruction of Lebir River Box-Girder Bridge:         <ul> <li>Fairul Zahri MOHAMAD ABAS, Public Works Department,</li> <li>Malaysia</li> </ul> </li> </ul>
10:30 to 11:00	Debate: questions and answers
11:00 to 11:30	Tea / Coffee break
11:30o 13 :00 (30min./speaker)	<ul> <li>Technical Session 4: Bridge Rehabilitation</li> <li>Moderator: Mourad HAMROUNI, Ministry of Equipment and Housing, Tunisia</li> <li>1. Rehabilitation of PC cables of 30 years PC box girders - Tunis South Intrance Bridge: <ul> <li>Kamel ELHMADI, SETTING – TUNISIA.</li> </ul> </li> <li>2. Retrofit and widening of a segmental twin bridge: <ul> <li>Dimitrios PAPASTERGIOU, Federal Roads Office (FEDRO), Switzerland</li> </ul> </li> <li>3. Ultra High Performance Fibrous Concrete in the rehabilitation of existing civil engineering structures - experimentation on 2 viaducts of the APRR network: <ul> <li>Jean-Luc DABERT, Infrastructure of the APRR motorway group, France</li> </ul> </li> </ul>
13 :00 to 13 :30	Debate: questions and answers
13:30 to 15:00	Lunch
15 :00 to 16:30 (30min./speaker)	Case Study and Round Table Discussion Topic: Inspection and Rehabilitation in different countries  Moderator: Lilia Sifaoui, - Ministry of Equipment and Housing, Tunisia One case study: Bridge over Oued MELEH – GABES Tunisia Facilitator: Pierre GILLES,SPW Mobility and Infrastructure, Belgium(French secretary) Panellists: Kamel EL HMADI - SETTING Ridha MAHJOUB – CETA Tunisia Karim BEN ABDESSALEM - GIS Tunisia Nicolas Bardou, Vinci, France Dimitrios Papastergiou, Federal Roads Office (FEDRO), Swiss Fairul Zahri Mohamad Abas, Public Works Department, Malaysia







Thursday, February 23th 2023			
	Jean-Luc Dabert, Infrastructure of the APRR motorway group, France		
16:30 to 16:45	Tea / Coffee break		
Closing			
16:45 to 17:05	Closing of the seminar Lilia Sifaoui, - Ministry of Equipment and Housing, Tunisia Technical conclusions of the seminar by Kiyohiro IMAI Closing from Slah ZOUARI, first delegate of Tunisia,		

Friday,	<b>February</b>	24th	2023

**Technical visit:** 

09:30 to 11:00:Rades La Goulette Bridge

9:00 to 17:00 12:30 to 14:00: lunch at Korbos 14:00 to 16:00: construction site visit

16:00 to 17:00: back to the hotel



Rades La Goulette Bridge Project



Stabilization of korbous hill project https://www.facebook.com/watch/?v=451252510209509

## **Organisation Commitee**

Kiyohiro IMAI (Japan)	Technical Committee 4.2 Road Bridges
Lilia Sifaoui Safa Jlassi Malek Bannour	Responsables of the Seminar
Slah Zouari	First Delegate of Tunisia in PIARC
Mourad Meddeb Hamrouni Ministry of Equipment and Housing	
Aida Bergaoui	President of the Tunisian Road Association (ATR)







**Bureau ATR** 

Kaouther Machta, Ahmed Ksontini, Saloua Triki, Imen Makhlouf, Mohamed Zmerli, Eya Souab and Imen Ben Hessine

#### **Location of the Seminar**

Hotel El Mouradi Gammarth : Les côtes de Carthage, La Marsa, Tunis, BP 597-2070, Gammarth, Tunisia - Telephone: +216 71 27 43 00 - <a href="https://goo.gl/maps/UbhBmpJRH6PE3SaQ9">https://goo.gl/maps/UbhBmpJRH6PE3SaQ9</a> - Website : <a href="https://www.elmouradi.com">www.elmouradi.com</a> Email : <a href="mailto:res.gammarth@elmouradi.com">res.gammarth@elmouradi.com</a>

#### **Accommodation**

El Mouradi Gammarth offers Superior" rooms for single use at the rate of 198TND (incl. taxes) per day including breakfast.

Contacts détails: Les côtes de Carthage, La Marsa, Tunis, BP 597-2070, Gammarth - +216 71 27 43 00 - W7CQ+G8 Marsa.

To take advantage of the preferential tariff, you have to send an email on the following address: <a href="mailto:sales1.gammarth@elmouradi.com">sales1.gammarth@elmouradi.com</a>.

Other than that, we propose you the following list of alternative hotels but not exclusively:

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Hotel name	Contact details	Booking link	
El MouradiGammarth**** Seminar venue	Les côtes de Carthage, La Marsa, Tunis, BP 597-2070, Gammarth <u>-</u> +216 71 27 43 00 W7CQ+G8 Marsa	Email de réservation en relation avec l'évènement : sales1.gammarth@elmouradi.com	
Mövenpick Gammarth	B P 36, Av. Taieb Mhiri, 2078la Marsa <u>+</u> +216 71 741444 V8VC+X9 Marsa  https://urlz.fr/kdTl		
Le Palace Gammarth	Les cotes de Carthage, Gammarth +216 71 91 20 00 https://urlz.fr/kdSc W888+68 Gammarth		
Regency Gammarth	B.P 705 – 2078 Gammarth, Marsa 2013 <u>-</u> +216 71 91 09 00 W7Q3+R2 Marsa	https://urlz.fr/kdSN	
Ramada Plaza Gammarth*****	Les cotes de Carthage, Gammarth 216 71 911 100 W7FH+WW Gammarth	https://urlz.fr/kdSP	
Sheraton****	Avenue de la Ligue Arabe, B.P. 345, Tunis Cedex108 - +216 71 10 03 00 R5J6+F7 Tunis	https://urlz.fr/kdT8	
Golden Tulip El Machtel****	A <u>venue</u> O <u>uled</u> H <u>affouz</u> E <u>I</u> O <u>mrane</u> 1005 T <u>unis-</u> +216 71 78 32 00 R57F+CH Tunis	https://el- mechtel.goldentulip.com/en-us/	
Acropole***	Berges Du Lac, Les Berges du Lac, 2045 Tunis- +216 71 96 19 47 R6MQ+PW5	https://urlz.fr/kdTd	







## Registration and fees

To register, please follow this link https://urlz.fr/kdTT

	Registration fees			Payment method
The seminar	Before February 12th, 2023	High-income countries	350€	By direct bank deposit to the account of the Tunisian Roads Association
		Middle- and low- income countries	350 TND	
	After February 12th, 2023	High-income countries	400 €	
		Middle- and low- income countries	400 TND	
Gala Dinner		High-income countries	60 €	By direct bank deposit or cash on the first seminar day
Gala Billio		Middle- and low- income countries	120 TND	

Bank: Banque Internationale Arabe de Tunisie « BIAT » - AGENCE LES BERGES DU LAC

Account owner: Tunisian Road Association

IBAN International TN59 0860 3000 1520 0905 8019

Code BIC: BIATTNTT

The registration will be validated upon receipt of the proof of payment to:

aida.sriha@gmail.com and salouatriki@bte-ingenierie.com

## **Travel and transportation**

The capital Tunis is well linked to the rest of the world through the international airport Tunis - Carthage and the cab service in the capital is very affordable, the online cab order service is very common.

#### **Climate**

The climate is relatively cool in February in Tunisia. Daytime temperatures vary between 8°C and 17°C, but depending on the year, they can drop to 0°C and rise to 22°C.

## Visa procedures

In general, the following documents are required to apply for a visa for Tunisia:

- Original passport with a minimum validity of 6 months ,
- Visa fees
- Supporting documents if applicable.
- Fully filled out application form







To be noted that, procedures, applications, and deadlines may vary from country to country. Please contact your embassy or consulate for full information or visit: <a href="https://www.aeroportdetunis.com/fr/visa\_tunisie.php">https://www.aeroportdetunis.com/fr/visa\_tunisie.php</a>

## **Seminar Contact Person**

For any further information or clarification that you may require, please contact

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