Programme overview

Pre-Tour (click here for more information)

Monday - 26 June 2017

Conference programme

Place of the Conference: Forumsalen, Campus Skellefteå (Laboratorgränd 13, Skellefteå)

The duration of each presentation is scheduled 20 minutes including questions. Presentations should be about 15 minutes to allow a 5 minutes question time and discussion.

Tuesday - 27 June 2017	
7:30 – 11:00	*Attendee Registration, Presenter Check-in, Posters*
8:45 – 9:00	Opening Session
9:00 – 10:00	Keynote Presentations
10:00 – 10:30	Coffee Break
10:30 – 12:10	Technical Session 1 Design of timber bridges I
12:10 – 13:10	Lunch
13:10 – 14:50	Technical Session 2 Monitoring
14:50 – 15:50	Coffee Break / Poster session
15:50 – 17:30	Technical Session 3 Joints
17:30 – 19:00	Technical visit - Skellefteå Wooden buildings and bridges
19:00 – 21:00	Information from Timber Bridge Manufacturer including Buffet Dinner (Stiftsgården)

Wednesday - 28 June 2017		
7:30 – 11:00	*Attendee Registration, Presenter Check-in*	
7:50-8:00	Introduction to the day	
8:00 – 9:00	Keynote Presentations	
9:00 – 10:40	Technical Session 4 Durability and LCA	
10:40 – 11:10	Coffee Break	
11:10 – 12:40	Technical Session 5 Design of timber bridges II	
12:40 – 13:40	Lunch	
13:40 – 15:20	Technical Session 6 Timber concrete bridges	
15:20 – 15:50	Coffee Break	
15:50 – 17:10	Technical Session 7 Historical bridges	Technical Session 8 FEM Analyses
17:10 –	Committee Meeting, next conference	

19:00 – 21:30	Dinner Banquet Skellefteå

Thursday – 29 June 2017	
7:30 – 8:00	*Attendee Registration, Presenter Check-in*
7:50-8:00	Introduction to the day
8:00 – 8:30	Keynote Presentation
8:30 – 9:50	Technical Session 9 Testing
9:50 – 10:10	Coffee Break
10:10 – 11:300	Technical Session 10 Case studies
11:30 – 11:40	Close-out Session
11:40 – 13:00	Lunch

Poster Session

Tuesday 27 June 2017, 14:50-15:50

Folding System for Timber Truss Bridge *Hideyuki Hirasawa, Honomi Ansai, Jun Tonuma*	**Vaida footbridge – from design to demolition** *Lauri Perv, Mihkel Sinisalu, Alar Just*
Performance evaluation of the cross laminated timber for the bridge decks *Yusuke Ariyama, Takanobu Sasaki, Tomoyuki Hayashi, Atsushi Toyoda, Humihiko Gotou, Katsuhiko Takami, Shogo Araki*	**Adhesive system for acetylated wood for load bearing constructions - The GIAceWood project** *Andreas Treu, Ronny Bredesen, Ferry Bongers*
Creep behavior of oak pegs under tension in dry and wet conditions *Jiři Kunecký, Michal Kloiber, Hana Hasníková, Jaroslav Hrivnák, Václav Sebera, Jan Tippner, Jaromír Milch*	**A Covered Cross Laminated Timber Bridge - From Concept to Product** *Lars Laitila, Niclas Björngrim, Peter Bomark & Tobias Pahlberg*
Mechanical analysis of scarf joint fastened using cylindrical wooden dowel *Jan Tippner, Jaromír Milch, Jiři Kunecký, Michal Kloiber, Martin Brabec, Václav Sebera*	**Future CLT**

Detailed Technical Programme
Tuesday 27 June 2017

8:45-9:00	**Opening Session,** *Olle Hagman, Luleå University of Technology*
9:00-10:00	**Keynote Presentations** *André Jorissen, Design and manufacturing of timber bridges in the Netherlands* *Kjell Arne Malo, Developments of durable timber bridges*
10:30-12:10	**Technical Session 1, Design of timber bridges I** *Moderator: James P. Wacker, USDA Forest Service, Forest Products Laboratory*
	A timber bridge across Lake Mjøsa in Norway *Ole Kristian Løke, Trond Arne Stensby, Johannes Veie, Yngve Årtun, Svein Erik Jakobssen, Per Meaas*
	Comparison of network patterns suitable for timber bridges with crossbeams *Anna Weronika Ostrycharzyk, Kjell Arne Malo*
	Effect of Nordic climate on cupping of stress laminated timber decks *Stefania Fortino, Giovanni Metelli, Petr Hradil, Federico Ossodi, Anna Pousette, Tomi Toratti*
	Anchor plates for pre-stressing rods and compression orthogonal to grain of timber *Fransesco Mirko Massaro, Kjell Arne Malo*
	Mechanical properties of acetylated radiate pine *Ferry Bongers*
13:10-14:50	**Technical Session 2, Monitoring and testing** *Moderator: Olle Hagman, Luleå University of Technology*
	Advantages of moisture content monitoring in timber bridges *Andreas Müller, Bettina Franke, Marcus Schiere, Steffen Franke*
	Moisture monitoring of nine protected timber bridges in Germany *Johannes Koch, Ralf W. Arndt, Antje Simon, Markus G. Jahreis*
	Moisture Content Monitoring in Glulam by Electrical Methods *Hang Li, Marianne Perrin, Florent Eyma, Xavier Jacob, Vincent Gibiat*
	Smart Timber Bridge on Geosynthetic Reinforced Soil (GRS) Abutments *Adam Senalik, James P. Wacker, Travis K. Hosteng, John Hermanson*
	A Robust, Passive Resistance Sensor for Moisture Content Monitoring of Timber Bridges *Niclas Björngrim, Per-Anders Fjellström, Olle Hagman*
14:50-15:50	**Poster Session**
15:50-17:30	**Technical Session 3, Joints** *Moderator: Alar Just, RISE Research Institutes of Sweden*
	Effect of on-site splice joints for timber network arch bridges *Martin Cepelka, Kjell Arne Malo*
	Parallel splitting mode of failure in dowel type connections with chamfered cuts *Katarzyna Ostapska-Luczkowska, Kjell Arne Malo*
	Effects of Notching on Timber Girder Performance *Justin Dewey, Rabin Tuladhar, Lara Mullamphy, Lucy McCormack*
	Fatigue strength of axially loaded threaded rods embedded in glulam at 45° to the grain *Haris Stamatopoulos, Kjell Arne Malo*
	Reinforcement of Sundbyveien Bridge *Magne A. Bjertnæs, Trond Arne Stensby*

Detailed Technical Programme
Wednesday 28 June 2017

7:50-8:00	**Introduction to the day,** *Anders Gustafsson RISE Research Institutes of Sweden*
8:00-9:00	**Keynote Presentations** *Robert Widmann*, From then to now: A short history of Swiss timber bridge designs *James P. Wacker*, U.S. Timber Bridges: Current Activities and Future Directions
9:00-10:40	**Technical Session 4, Durability and LCA** *Moderator: Anna Pousette, RISE Research Institutes of Sweden*
	Learning Experiences from Norwegian Timber Bridge Inspections *Hauke Burkart, Otto Kleppe*
	Rational maintenance of timber bridges *Daniel Honfi, Thomas Lechner, Jochen Köhler*
	Investigation of timber bridges in Estonia *Per-Anders Fjellström, Alar Just*
	Comparative life cycle assessment of concrete and timber road bridge deck designs *Reyn O´Born, Katalin Vertes*
	Life cycle Assessment on two design alternatives of the Driva Bridge *Yishu Niu, Lauri salokangas, Gerhard Fink*
11:10-12:40	**Technical Session 5, Design of timber bridges II** *Moderator: Mats Ekevad, Luleå University of Technology*
	A parametrized process: Design and realization of timber truss bridges *John Haddal Mork, Marcin Luczkowski, Bendik Manum, Anders Rønnquist*
	Correct geometry against water damages in Design of Timber Bridges *Tönis Teppand, Renno Reitsnik*
	New design Guidelines for structural protected timber bridges *Antje Simon, Markus G. Jahreis, Johannes Koch, Ralf Arndt*
	Improved efge design for stress-laminated decks made of spruce *Anna Pousette, Peter Jacobsson, Erik Johansson, Lars-Olof Nilsson, Christine Warg*
13:40-15:20	**Technical Session 6, Timber-concrete composite bridges** *Moderator: Kjell Arne Malo, NTNU Norwegian University of Science and Technology*
	Investigation of Early Timber-Concrete Composite Bridges in the United States *James P. Wacker, Alfredo Dias, Travis K. Hosteng*
	Design of wood-concrete composite beams under deck bridge – Theoretical development and construction examples *Fabien Renaudin, Philippe Jandin*
	Short-term analysis of timber-concrete composite bridges *Joonas Jaaranen, Lauri Salokangas, Gerhard Fink*
	Long-term analysis of timber-concrete composite bridges *Joonas Jaaranen, Lauri Salokangas, Gerhard Fink*
	Laminated Steel-Timber-Concrete Beams for Bridges *Jeno Balogh, István Szücs, Rose Holtzman*

Parallell Sessions

15:50-17:10	**Technical Session 7, Historical bridges** *Moderator: Anders Gustafsson, RISE Research Institutes of Sweden*
	A Century of a Bridge of Perfection *Liu Yan*
	Historic Timber Howe Trusses of British Columbia *Murray Johnson, Gary Farnden*
	The Cloak Bridge in Česky Krumlov – construction history research *Jiri Blaha*
	Structural Evolution of Woven Arched Covered Timber Bridges in China *Yaxin Li, Sudarshan Krishnan*
15:50-17:10	**Technical Session 8, FEM Analyses** *Moderator: André J. M. Jorissen, Technische Universitet Eindhoven*
	Mechanics of Stress-Laminated Timber Bridges with Butt End Joints *Mats Ekevad, Johannes A. J. Huber, Peter Jacobsson*
	Simulation of moisture diffusion in timber bridges exposed to rain *Petr Hradil, Stefania Fortino, Giovanni Metelli, Alessandro Musci, Jakob Dohnal, Maria Fredriksson*
	Updating of numerical timber bridges models by experimental modal analysis *Julio Vivas, Soledad Rodriguez, Juan Carlos Santos*
	Comparison of Cross- and Stress-Laminated Timber Bridge Decks *Jonas Turesson, Mats Ekevad, Sven Berg*

Detailed Technical Programme
Thursday 29 June 2017

7:50-8:00	**Introduction to the day,** *Anders Gustafsson RISE Research Institutes of Sweden*
8:00-8:30	**Keynote Presentation** *Hideyuki Nasu, Examples of Japanese wooden bridges and Japanese wooden structures*
8:30-9:50	**Technical Session 9, Testing** *Moderator: Robert Widmann, Empa – Structural Engineering Research Laboratory*
	Inspection of a cable-stayed bridge by 3D-scanner *Balázs Major, Olle Hagman*
	The potential of acoustic Emission for Timber damage Assessment *Imen Yahyaoui, Marianne Perrin, Xiaojing Gong*
	Analysis of Mini-jack technique for in situ measurement of strength *Michal Kloiber, Jan Tippner, Jiři Kunecký,Václav Sebera, Jaromír Milch, Jaroslav Hrivnák*
	The Cloak Bridge in Česky Krumlov – measuring of mechanical properties *Michal Kloiber, Václav Sebera, Jaroslav Hrivnák Jan Tippner, Jiři Kunecký*
10:10-11:30	**Technical Session 10, Case studies** *Moderator: Per-Anders Fjellström, RISE Research Institutes of Sweden*
	Design flaws on Norwegian Timber Bridges *Hauke Burkart, Tormod Dyken*
	Björgum bridge, a roofed timber footbridge in Norway *Asmund Sveen, Trond Even Eggen, Yngve O. Aartun*
	Field condition assessment of the first vehicular timber bridge in Korea, Hanareum Bridge *Sang-Joon Lee, Kwang-Mo Kim, Kug-Bo Shim*
	Network arch bridge with glulam arches. Lessons learned and further development *Johannes Veie*
11:30-11:40	**Close-out Session,** *Anders Gustafsson, RISE Research Institutes of Sweden*