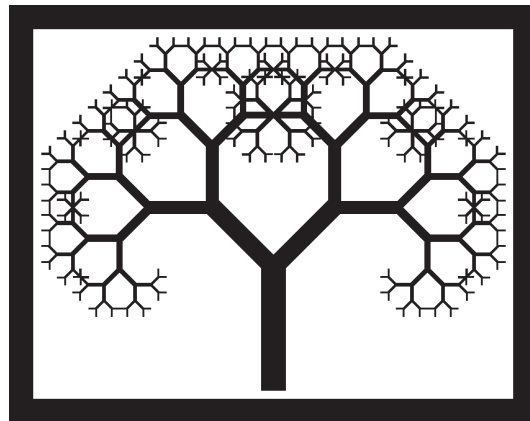


Programme

**The Sixteenth International Conference on
Computational Structures Technology**

**The Thirteenth International Conference on
Engineering Computational Technology**



27-29 August 2026
Budapest, Hungary

How to find a paper in the conference proceedings

The contributed papers are published in a summary volume with the full papers available as follows:

- **Volume CST**

<https://www.ctresources.info/ccc/pub.html?f=v14cst26>

Proceedings of The Sixteenth International Conference on Computational Structures Technology

P. Iványi, J. Kruis and B.H.V. Topping (Editors)

Civil-Comp Press, 2026

- **Volume ECT**

<https://www.ctresources.info/ccc/pub.html?f=v13ect26>

Proceedings of The Thirteenth International Conference on Engineering Computational Technology

P. Iványi, J. Kruis and B.H.V. Topping (Editors)

Civil-Comp Press, 2026

In this programme the letters immediately preceding a paper title refer to the volume identifier given above. For example CST.2.2 refers to the second paper in the second section of Volume CST, *Proceedings of The Sixteenth International Conference on Computational Structures Technology*.

Online version of the program

<https://cstect26.neotrace.it/>



A note for authors presenting papers and chairmen

All authors should meet at the front of the meeting room for their session at least 10 minutes before the session starts. Each contributed paper has been allocated 20 minutes for presentation and questions. Chairmen should indicate when 15 minutes have passed and again after 17 minutes that the presenter should immediately finish. Three minutes are available for questions and comments.

Authors are kindly asked to keep to the time allocated to them by the Chairmen. Authors are discouraged from using their own laptops for presentation unless absolutely necessary, in which case they should ensure that they can quickly and efficiently start their presentation when requested by the Chairmen.

Chairmen are requested to keep to the timetable. Changes to the programme will be indicated at the entrance to each of the rooms.

As a courtesy and in politeness to all speakers and other participants, please turn off your mobile phone whenever you enter any of the meeting and lecture rooms.

The contributed papers can be freely downloaded during the conference and until 1st December 2026. After that date, a small charge will be applied for paper downloads. **Conference participants should download any papers that they require for their records no later than 1st December 2026.**

Conference timetable summary

Day 1: Thursday, 27th August 2026

17:00–18:00 Conference session (*Approximate time; individual session times may vary.*)

18:00–20:00 Welcome buffet

Day 2: Friday, 28th August 2026

09:00–10:20 Conference session (*Approximate time; individual session times may vary.*)

10:20–11:00 Coffee break

11:00–12:20 Conference session (*Approximate time; individual session times may vary.*)

12:20–13:30 Lunch

13:30–14:30 Meet the Editors

14:30–15:50 Conference session (*Approximate time; individual session times may vary.*)

15:30–16:00 Coffee break

16:00–17:00 Conference session (*Approximate time; individual session times may vary.*)

19:30–22:00 Conference dinner – admission only by ticket

Information about the venue can be found on the ticket and an information page has been attached to the certificate of participants, who has registered for the dinner.

Day 3: Saturday, 29th August 2026

09:20–10:20 Conference session (*Approximate time; individual session times may vary.*)

10:20–11:00 Coffee break

11:00–12:20 Conference session (*Approximate time; individual session times may vary.*)

12:20–13:30 Lunch

Conference timetable summary

Day 1, Thursday, 27th August
Zsolnay II+III
17:00–18:00 Opening session
page 8
18:00–20:00 Welcome buffet

Conference timetable summary

Day 2, Friday, 28th August	
Rákóczi I	Rákóczi II
09:00–10:20 Advances in Finite, Boundary and Discrete Element Methods page 9	09:00–10:00 Developments in the Design Optimisation of Engineering Structures page 10
10:20–11:00 Coffee break	
11:00–12:20 Digital Twins in Engineering Surrogate Modeling Techniques in Engineering page 11	11:00–12:20 Computational Methods for Biomechanics Topology Optimization page 12
12:20–13:30 Lunch	
13:30–14:30 Meet the Editors	
14:30–15:30 Fluid Flow Problems page 13	14:30–15:50 Machine Learning in Engineering Masonry Structures page 14
15:30–16:00 Coffee break	
16:00–16:40 Domes and Form-Finding page 15	16:00–17:00 Numerical Methods page 16

Conference timetable summary

Day 3, Saturday, 29th August	
Rákóczi I	Rákóczi II
09:20–10:20 Advanced Analysis of Structures page 17	09:20–10:20 Finite Element Technology page 18
10:20–11:00 Coffee break	
11:00–12:20 Advanced Analysis of Structures Material Modelling page 19	11:00–12:20 Vibration Modelling and Analysis Laminates page 20
12:20–13:30 Lunch	

Day 1: Thursday, 27th August 2026: Zsolnay II+III

17:00–18:00

Chaired by: Péter Iványi, Jaroslav Kruis and Barry H V Topping

Opening session

CST.1.1 Challenges in topology optimization with applications

J. Lógó, M. Tantawi, B. Tóth

Day 2: Friday, 28th August 2026: Rákóczi I

09:00–10:20

Chaired by: Jaroslav Kruis and Francisco J. Montáns

Advances in Finite, Boundary and Discrete Element Methods

organized by: Prof. Jaroslav Kruis

CST.2.1 Deflated Krylov Method in Nonlinear Problems of Mechanics and Stochastic Analysis
M. Běreš and S. Sysala

CST.2.2 FE Numerical Errors in Lattice Metastructure Dynamics: Insights from Two Distinct Cases
I. Martínez-Terés, K.V. Bhat, P. Pflueger Tejero, J. Garcia-Martinez and F.J. Montáns

CST.2.3 Investigating Heavy-Ball Method as a Synchronization-Free Alternative to Conjugate Gradients
D. Hrbáč, D. Horák and J. Kružík

CST.2.4 An Impact of the FETI Gluing Conditions on Dual Operator Conditioning and Convergence Rate
A. Růžička, D. Horák and J. Kružík

Day 2: Friday, 28th August 2026: Rákóczi II

09:00–10:00

Chaired by: Alberto Martins

Developments in the Design Optimisation of Engineering Structures

CST.3.2 Virtual Element Method for Topology Optimization of Contact Problems

A. Myśliński

CST.3.3 Cost Optimisation of Steel Structures Exposed to Fire

T. Světlík and M. Čermák

CST.3.4 Optimisation of Asymmetric Single-Tower Cable-Stayed Concrete Bridges

A. Martins, S. Monteiro and L. Simões

Day 2: Friday, 28th August 2026: Rákóczi I

11:00–12:20

Chaired by: Edoardo Menga and Valerio Ferdinandi

Digital Twins in Engineering

CST.8.1 Toward a Digital Twin Framework: Finite Element Modeling and Optimal Sensor Placement for Calatrava's Città Dello Sport in Rome
V. Ferdinandi, M. Torzoni and R. Ardito

CST.8.2 The Automation of Building Information Modeling (BIM) Methodology in Structural Design of Concrete Walls
M. Cangussu Da Silva

Surrogate Modeling Techniques in Engineering

ECT.1.1 Propagation-Gated Graph Neural Operators for Steady-State CFD Surrogate Modelling on Unstructured Meshes
M.J. Kong, J.W. Jeoung, S.K. Yeom, D.H. Jung, T.H. Hong, K.B. Jeong and Y.W. Hwang

ECT.1.2 Sparse-Data Hybrid Modelling for Aircraft Fatigue Loads
E. Menga, B. Masiá Cabañes and R. Abarca López

Day 2: Friday, 28th August 2026: Rákóczi II

11:00–12:20

Chaired by: Hendrik Geisler and Majid Movahedi Rad

Computational Methods for Biomechanics

organized by: Dr Hendrik Geisler

CST.5.1 Surrogate Modeling for a Multi-Species Biofilm Model

H. Geisler, F. Klempt, M. Soleimani and P. Junker

Topology Optimization

CST.6.1 Topology Optimisation of Lattice Structures for Strain-Tunable Wave Filtering

F. Gomez Silva, R. Ortigosa and J. Martinez-Frutos

CST.6.2 An Efficient Multiscale Topology Optimization Framework Using HiCon-FEM

V. Yanes, N.-H. Kim, M.A. Sanz and F. Montáns

CST.6.3 Topology Optimization Design of Multimaterial Heterogeneous Interfaces for Additive Manufacturing

Z. Cai, L. Meng, D. Huo, J. Zhang, Y. Wang, J. Zhu and W. Zhang

Day 2: Friday, 28th August 2026: Rákóczi I

14:30–15:30

Chaired by: Jung-Wuk Hong and Ralf Deiterding

Fluid Flow Problems

ECT.2.1 Plane Performance Calculated with a Less Complex Wing Theory

R.W. Meyer

ECT.2.2 Adaptive Lattice Boltzmann Large Eddy Simulation of Turbulent Flows Through Porous Structures with Improved Mesh Interface Treatment

D. Kashyap, M. Grondeau and R. Deiterding

ECT.2.3 Ellipsoidal Kinematic Reconstruction for the Neighborhood Deformation Tracking in Nonlocal Analyses

S. Kim, S. Jin and J.-W. Hong

Day 2: Friday, 28th August 2026: Rákóczi II

14:30–15:50

Chaired by: Yiwei Hua and Mohamed Sameh El Ashri

Machine Learning in Engineering

CST.9.1 Bayesian Active Learning of Conditional Failure Probability Distributions for Precast Prestressed Concrete Beams
J. Whiteley and J. Becque

Developments in the Design Optimisation of Engineering Structures

CST.3.1 Predicting Earthquake-Induced Building Damage Grades Using Machine Learning and Explainable AI
E.K. Nyarko, S. Czarnecki, A.D.R. Troncoso Garcia, M. Hadzima-Nyarko, F. Martinez Alvarez, B. Bulajić, E. Isik and D. Radu

Masonry Structures

CST.14.1 Limit Analysis for Pagoda of Zhen-Guo Temple: Comparison of Different Modeling Approaches
P. Wang, Y. Hua and G. Milani

CST.14.2 Reduced Mesoscale Modelling for Masonry Arch Bridges
M.S. El Ashri, S. Grosman, L. Macorini and B.A. Izzuddin

Day 2: Friday, 28th August 2026: Rákóczi I

16:00–16:40

Chaired by: János Lógó

Domes and Form-Finding

CST.7.1 Buckling of Domes From Functionally Graded Auxetics

J. Blachut, M.D. White and D. Sala

CST.7.2 Evolutionary Form-Finding of Lattice Domes via a Constrained Force Density Method in Rhino-Grasshopper

B. Tóth, M. Bruggi and J. Lógó

Day 2: Friday, 28th August 2026: Rákóczi II

16:00–17:00

Chaired by: Patrick Le Tallec and Evgeny Barkanov

Numerical Methods

CST.10.1 Optimized Set-Up of Internal Controlled Electrical Cartridges for Efficient Heating in Pultrusion Processes

E. Barkanov and P. Akishin

CST.10.2 A Hierarchical Hermite Finite Cell Framework for Strain Gradient Kirchhoff Plate Theory

C.A. Yan, N. Fantuzzi, R. Vescovini and R. Luciano

CST.10.3 Local Analysis of Nonlinear Elastomers Steadily Sliding over Rough Surfaces

P. Le Tallec

Day 3: Saturday, 29th August 2026: Rákóczi I

09:20–10:20

Chaired by: José Guilherme Santos da Silva and János Lógó

Advanced Analysis of Structures

organized by: Prof. J.G. Santos da Silva and Prof. L.F. Costa Neves

CST.4.1 Vibration Analysis of Steel-Concrete Composite Floors when Subjected to Rhythmic Human Dynamic Loadings

M.G. de Carvalho Junior and J.G. Santos da Silva

CST.4.2 Serviceability Limit States of CLT–Concrete Composite Slabs: Vibrations and Long-Term Deflections

M. Tantawi, D.B. Merczel and J. Lógó

CST.4.3 Preliminary Predictions of Progressive Damage in Single-Bolted Pultruded FRP Connections and Comparison with Experiments

A. Rahman, I. Boem and N. Gattesco

Day 3: Saturday, 29th August 2026: Rákóczi II

09:20–10:20

Chaired by: Hugo A. F. A. Santos and Irwan Katili

Finite Element Technology

CST.15.1 A Variationally Consistent Force-Based Finite Element Formulation for the Dynamic Analysis of Cracked Beams Under Moving Loads
H.A.F.A. Santos

CST.15.2 Improved DKMT18 and DKMQ24 Shell Elements With Pseudo-Curvatures
R.S. Katili, I. Katili, S. Natarajan and S.P.A. Bordas

CST.15.3 Application of Hierarchical Rotational Shell Finite Elements
I. Páczelt, B. Szabó and A. Baksa

Day 3: Saturday, 29th August 2026: Rákóczi I

11:00–12:20

Chaired by: José Guilherme Santos da Silva and Jaroslav Kruis

Advanced Analysis of Structures

organized by: Prof. J.G. Santos da Silva and Prof. L.F. Costa Neves

CST.4.4 Creep Buckling of Al–SiC Beam

D. Lanc, R.I. Gasljevic and G. Turkalj

CST.4.5 Post-Fire Strength Capacity Assessment of SRC Columns Under Asymmetry Conditions

C.-G. Chiorean

Material Modelling

CST.11.1 Programmable Multifunctional Hyperbolic Metamaterials: Design and Optimization

M. Yang, L. Meng, X. Zhu, W. Zhu, Z. Cai, J. Zhu and W. Zhang

CST.11.2 Coupled Thermo-Mechanical Analysis in Excavation Damage Zone

J. Kruis, T. Krejci and T. Koudelka

Day 3: Saturday, 29th August 2026: Rákóczi II

11:00–12:20

Chaired by: Goran Turkalj and Majid Movahedi Rad

Vibration Modelling and Analysis

CST.13.1 Application of Optimized Seismic Meta-Blocks to Reduce Ground Vibration

M.N.A. Nguyen, M.P. Truong, V.H. Nguyen and J.H. Lee

CST.13.2 A Finite Element Formulation for Vibration Analysis of Laminated Composite Thin-Walled Beam Type Structures Under Initial Load

D. Banić, G. Štimac Rončević and G. Turkalj

Laminates

CST.12.1 Simultaneous Optimization of Ply Angles and Thickness for Double-Double Laminates

P. Fang, T. Gao and W. Zhang

CST.12.2 Data-Driven Stacking Sequence Optimization of Composite Laminates via Deep Learning Surrogate Models

S. Gao, P. Fang, T. Gao and W. Zhang

List of participants

Prof.	Evgeny	BARKANOV
Prof.	Jan	BLACHUT
Dr.	Ingrid	BOEM
Mr.	Zhuoshao	CAI
Mrs.	Monica	CANGUSSU DA SILVA
	Cosmin-Gruia	CHIOREAN
Prof.	Haeseong	CHO
Dr.	Sławomir	CZARNECKI
Prof.	Ralf	DEITERDING
Dr.	Mohamed Sameh	EL ASHRI
Mr.	Pingchu	FANG
Dr.	Valerio	FERDINANDI
Mr.	Shanyue	GAO
Dr.	Juan	GARCIA-MARTINEZ
Dr.	Johannes	GEBERT
Dr.	Hendrik	GEISLER
Prof.	Tae Hoon	HONG
Prof.	Jung-Wuk	HONG
Prof.	David	HORÁK
Dr.	Yiwei	HUA
Prof.	Péter	IVÁNYI
Prof.	Irwan	KATILI
Mr.	Sunwoo	KIM
Mr.	Min Jin	KONG
Prof.	Jaroslav	KRUIS
Prof.	Domagoj	LANC
	Patrick	LE TALLEC
Prof.	Jin Ho	LEE
Prof.	János	LÓGÓ
Prof.	Jesus	MARTINEZ-FRUTOS
Prof.	Alberto	MARTINS
Prof.	Liang	MENG
Dr.	Edoardo	MENGA
Mr.	Runald Walter	MEYER
Prof.	Francisco J.	MONTÁNS
Prof.	Majid	MOVAHEDI RAD
	Andrzej	MYŚLIŃSKI
Mr.	Mau Nhat An	NGUYEN
Prof.	Rogelio	ORTIGOSA
Prof.	István	PÁCZELT
Mr.	Adam	RŮŽIČKA
Prof.	Hugo A. F. A.	SANTOS
Prof.	José Guilherme	SANTOS DA SILVA
Mr.	Tadeáš	SVĚTLÍK
Dr.	Stanislav	SYSALA
	Mokhtar	TANTAWI
Prof.	Barry H V	TOPPING
Mr.	Bálint	TÓTH
Prof.	Goran	TURKALJ
Mr.	James	WHITELEY

List of participants

Mr.	Cheng Angelo	YAN
Mr.	Victor	YANES