TINCE'26

6th International Conference on Technological Innovations in Nuclear Civil Engineering

20-22 May 2026

PROGRAM

Updated - February 2, 2026

Organizer

Sponsors

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With the current global focus on climate change and the energy crisis, **nuclear energy is playing an increasingly important role in achieving deep decarbonization**. This was recognized at COP28 in Dubai (2023), where nuclear energy was identified as a **major low-emission technology**. As of 2024, there are approximately **60 nuclear reactors under construction worldwide** and **around 110 additional planned reactors**, most of which are based on traditional water-cooled technologies. Furthermore, new reactor types such as **Small Modular Reactors** (SMR) and **Advanced Modular Reactors** (AMR) are gaining traction, demanding innovations in ground and civil structures.

TINCE Conference Series Overview

The international conference cycle Technological Innovations in Nuclear Civil Engineering (TINCE) was initiated in **2013** and organized by **Sfen** (the French Nuclear Society). Subsequent editions took place in 2014, 2016, 2018, and 2023. **TINCE covers a broad array of topics in nuclear civil engineering**, including:

- from fundamental research to the intricacies of nuclear construction,
- from construction codes and standards to construction technologies
- from foundation design to polymer-based products
- from design of new construction to the retrofit of existing facilities, including ground improvement issues and base-isolated structures
- from BIM implementation to long-term monitoring of the structures

Key Topics and Objectives

TINCE'26 will focus on the **interplay between design and construction**, an evolving area that leverages advances in **interoperability between BIM and structural calculations**. The development of **environmentally friendly materials with lower carbon emissions** is a key priority. Additionally, the conference will address **long-term operational challenges**, like structural health monitoring and the development of tools for **managing aging effects in nuclear facilities**. These include new sensing techniques, non-destructive testing methods, and digital twins to assess and predict asset conditions.

The goal of TINCE is to **foster collaboration among researchers, engineers, and industry professionals** to share insights and best practices in nuclear civil engineering. Participants are encouraged to submit **scientific and technical papers** on various relevant topics or propose special sessions. A **special award session** will be held for PhD students to recognize exceptional work.

We look forward to meeting you at TINCE'26!

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TOPICS:
T1. Design rules, methods, and criteria for the construction of new nuclear structure or for the justification of existing facilities
T2. BIM and digital twins for new and existing nuclear civil structures
T3. Innovative construction methods and lessons learned on construction site
T4. New materials for future nuclear projects
T5. Innovative monitoring techniques and long-term operation

SPECIAL SESSIONS :
SS1. Advancements in civil engineering codes and standards for nuclear facilities
SS2. Building the next generation of heat sink structures
SS3. Qualifying numerical simulation tools for the behavior of structures under explosion loading
SS4. Impact analysis on nuclear structures
SS5. Innovative binders and low-carbo concrete solutions
SS6. Innovative approach to the construction of teel-concrete structures
SS7. SMRs, overcoming industrialization and modularity barriers
SS8. CIGEO technical challenges for waste disposal

SFEN EVENTS TEAM
sfen.events@sfen.org
Patricia Hamel-Bloch, Event Director
Séphora Abbadi, Julien Barbier, Event Team

PROGRAM OVERVIEW

WEDNESDAY

Convention center opening Check-in

Welcome Address

Opening Speech

Parallel Sessions
TS1.1 | TS2.1 | TS4.1 | SS3

Exhibition Opening + Welcome Reception

Keynote
Keynote lecture

Poster Session

Parallel Sessions
TS1.2 | TS3.1 | TS5.1 | SS5

THURSDAY

Convention center opening Check-in

Parallel Sessions
TS2.2 | TS3.2 | SS2 | SS4

Parallel Sessions
TS1.3 | TS3.3 | SS2 | SS8

Buffet Lunch

Parallel Sessions
TS1.4 | TS1.5 | TS2.3 | TS4.2, TS5.2

Parallel Sessions
TS1.6 | TS1.7 | SS1 | SS7

PhD Award Session + Sfen Energy Architecture Award Ceremony

Conference Party + PhD Award Ceremony

FRIDAY

Convention center opening Check-in

Parallel Sessions
TS1.8 | TS1.9 | TS3.4 | SS6

Parallel Sessions
TS1.10 | TS2.4 | SS4 | SS6, TS1.11

Closing Session

Technical Sessions

TS1.1 Design rules
TS1.2 Design rules - Reinforced concrete
TS1.3 Design rules
TS1.4 Design rules - Seismic design
TS1.5 Design rules - Ageing and mass transfer
TS1.6 Design rules - Soil structure interaction
TS1.7 Design rules
TS1.8 Design rules - Optimising and simplifying design
TS1.9 Design rules - Seismic design
TS1.10 Design rules
TS1.11 Design rules - Geotechnics
TS2.1 BIM and digitial twins
TS2.2 BIM and digital twins
TS2.3 BIM and digital twins
TS2.4 BIM and digital twins
TS3.1 Innovative construction - HPC prefabrication and modularisation
TS3.2 Innovative construction
TS3.3 Innovative construction
TS3.4 Innovative construction
TS4.1 New materials
TS4.2 New materials
TS5.1 Innovative monitoring
TS5.2 Innovative monitoring

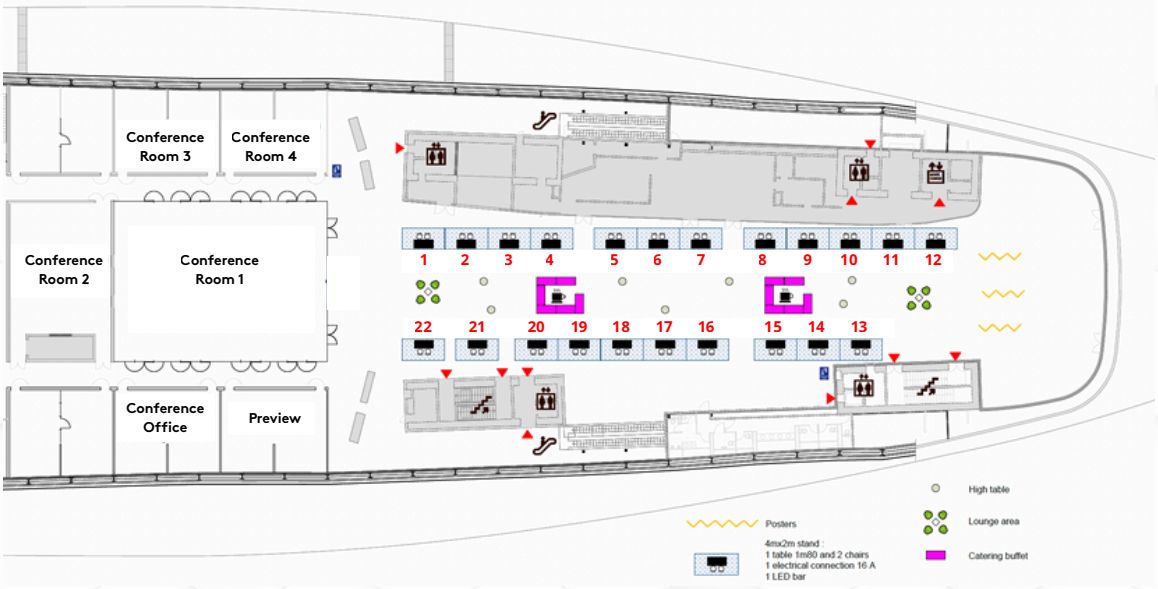
Special sessions

SS1 Advancements in civil engineering codes and standards for nuclear facilities
SS2 Building the next generation of heat sink structures
SS3 Qualifying numerical simulation tools for the behavior of structures under explosion loading
SS4 Impact analysis on nuclear structures
SS5 Innovative binders and low-carbon concrete solutions
SS6 Innovative approach to the construction of steel-concrete structures
SS7 SMRs, overcoming industrialization and modularity barriers
SS8 CIGEO technical challenges for waste disposal

CONFERENCE VENUE

TOURS CONVENTION CENTER - Level 2
26 Boulevard Heurteloup - 37000 Tours

FLOOR PLAN



1. Sofistik
2. Cerib
3. Dextra
4. Infranéo
5. Assystem
6. Telemac
7. Cyclife Digital Solutions
8. Tractebel
9. SOM - Ortec Group
10. Eiffage
11. SCIA by Allplan
12. EDF R&D
13. AFCEN
14. Egis
15. SETEC
16. Nuvia
17. Etandex
18. Artelia
19. Sarens
20. Atkins Realis
21. Reinert-Ritz
22. SIKA France

Exihibitors

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Wednesday 20 May

08:30

Convention center opening - Check-in

09:30 - 10:00

Welcome address

10:00 - 10:20

Opening Speech

10:30 - 12:30

Technical Session Topic 1.1 Design rules

021 - Concrete Capacity Design for Anchorages : A Refined Model
V. Corbic (EDF DT, France)

160 - Computation of Floor Response Spectra with consideration of Floor Equipment Interaction
E. Dupuis (Tractebel, France)

101 - 3D modeling of the soil in dynamic soil–structure interaction
M. Mozayan (INGÉROP, France)

022 - Standard floor response spectra for nuclear buildings on EUR soils
P.M. Alliard (Edf Nuward, France)

010 - Waterproofing of Underground Structures in the Nuclear Context
E. Vimond (ETANDEX, France)

093 - Headed Bars in Nuclear Reinforced Concrete Structures -Implementation, Benefits, and Challenges
T. Josseron (Edvance, France)

10:30 - 12:30

Technical Session Topic 2.1 BIM and digitial twins

029 - Digital Twinning of Nuclear Concrete Containment Buildings: Integrating Uncertainty Quantification into Advanced Numerical Models
H. Al Elani (Université Paris-Saclay, CEA, Service d'Études Mécaniques et Thermiques, France)

046 - Digital Visualization of Structural-Engineering Metrics: Enhancing Design, Analysis and Collaboration
D. Kurmann (Nuclear Power Plant Beznau, Switzerland)

050 - Automated 3D design of reinforced concrete structures through an interoperability platform
S. Meijers (Haskoning Delft, Netherlands)

054 - Digital Twin for Nuclear Power Plants: A User-Centric approach to address orientation and information challenges
N. Greslin (Axpo Power AG, Switzerland)

056 - Building Information Modeling in the Nuclear Sector: Continuous Application from Design to Construction
M. Furrer (Nuclear Power Plant Beznau, Switzerland)

057 - Overcoming the limitations of 2D utility maps - Towards automated 3D modeling in nuclear civil engineering projects
M. Winterstein (Axpo Power AG, Switzerland)

10:30 - 12:30

Technical Session Topic 4.1 New materials

106 - Preliminary experimental mechanical characterization of low envi-ronmental impact cement mixture for conditioning LLW and ILW nuclear waste
N. Cefis (Politecnico di Milano, Italy)

167 - Ultra High Performance Concrete for Nuclear Applications
C. Androuet (Professional Civil Engineer, Canada)

176 - Comparative Simulation of Concrete Activation: PWR vs. Cyclotron Sources and the Economic Impact on Waste Disposal
E. Vangansbeke (Tractebel, Belgium)

204 - Application of the headed reinforcement bars in nuclear buildings
N. Houdart (Egis, France)

210 - Study and design of seismic mechanical rebar splices in their environment
R. Gardes (Linxion, France)

245 - Parametric Modeling of UHPFRC Tensile Behavior for Protective Coating Applications in Nuclear Civil Engineering
U. Coussement (LMDC, Université de Toulouse, INSA/UPS Génie Civil, France)

10:30 - 12:30

Special Session 3: Qualifying numerical simulation tools for the behavior of structures under explosion loading

076 - Towards reliable numerical prediction of reinforced concrete re-sponse under blast loading: a benchmark analysis
C. Rouzaud (Atomique Energie Commission C.E.A., France)

080 - Assessment of Material Modelling Strategies for Reinforced Concrete Subjected to Blast Loads
E. Messio (Ingérop, France)

092 - Comparison of Methods for Damage Assessment of Concrete Panels Subjected to Contact Detonation
J. Stewering (Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) gGmbH, Schwertnergasse, Cologne, Germany, Germany)

170 - Methodologies of modelling explosion phenomena and characterization of their effects onto RC structures
L. Renoux (Tractebel, France)

175 - Assessment of pre-damage parameters in reinforced concrete structures under post-seismic explosion
C. Bouguelmouna (CEA, France)

180 - Comparative Simulation Approaches for Explosion Modelling in Nu-clear Structures Using Ansys LS-DYNA
N. Van Dorsselaer (DynaS+, France)

12:30

Opening of the Exhibition and Poster Area

12:30 - 14:00

Welcome Reception

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14:00 - 14:45

Keynote Lecture

M. LINO (Commission Internationale des Grands Projets, France)

14:45 - 16:00

Poster session and coffee break

List of posters at the end of this daily program

16:00 - 18:00

Technical Session Topic 1.2 Design rules - Reinforced concrete

014 - Less Reinforcement, More Sense: Optimizing Reinforcement via Load Combination Strategy
N. Massé (LA GRANDE HALLE, France)

030 - Accounting for Out-of-Plane Shear in the Design of RC Shell Longitudinal Reinforcement
Y. Shaparevich (Egis, France)

142 - Optimization of concrete reinforcement calculated with the Capra–Maury Method under numerous load combinations
A. Keo (Ingérop, France)

178 - Linear vs Nonlinear static soil structure interface modelling: a comparative analysis of contact behaviour and reinforcement requirements
V.P. Tran (EGIS, France)

026 - Nonlinear finite element modeling of low-rise RC walls with lap splices
M. Kovarbasic (Swiss Federal Nuclear Safety Inspectorate ENSI, Switzerland)

118 - Implementation of GLRC_HEGIS homogenized global model for RC shells using MFRONT platform
L. Turgné (Egis, France)

16:00 - 18:00

Technical Session Topic 3.1 Innovative construction - HPC prefabrication and modularisation

095 - ARMF - Avonmouth Prefabrication
R. Bastos (EDF Energy Hinkley Point Power Station, United Kingdom)

097 - Pioneering Modular Construction in Nuclear Industry
R. Bastos (EDF Energy Hinkley Point Power Station, United Kingdom)

099 - Radical design change – loop joints – precast, "non-structural" elements
R. Bastos (EDF Energy Hinkley Point Power Station, United Kingdom)

100 - Reinforcement Cages Megalift
R. Bastos (EDF Energy Hinkley Point Power Station, United Kingdom)

198 - Design and Safety Case Implications of Prefabrication and Modularisation of Nuclear Civil Structures
S. Jones (NNB Genco HPC Ltd, United Kingdom)

200 - Engineering Design Insights from Heavy Precast and Modularised Structures on the Hinkley Point C Project
V.N. Le (EGIS group, United Kingdom)

16:00 - 18:00

Technical Session Topic 5.1 Innovative monitoring

072 - Vibration measurement of full-scale structural ground reinforcements for nuclear power plant foundations
J. Bounissou (Acoustique Vibrations Logiciels Scie, France)

119 - Muon Imaging for Structural Health Monitoring in Nuclear Facilities
C. Steer (Geoptic Infrastructure Investigations, United Kingdom)

126 - Effective Aging Management for Civil Structures
U. Wildner (Framatome GmbH, Germany)

186 - Towards safety classified seismic monitoring and triggering system for nuclear installation protection
J. Perisse (SITES, France)

205 - Inspection of a large concrete chimney stack with a wall-climbing robot equipped with Non Destructive Testing (NDT) devices
J.M. Henault (EDF R&D, France)

234 - Structural monitoring of a reactor building : Weighing of prestressing cables by lift-off
S. Lacroix (NUVIA STRUCTURE, France)

16:00 - 18:00

Special Session 5: Innovative binders and low-carbon concrete solutions

064 - Blended low carbon binders: composition-property correlations for elastic constants and compressive strength
T. Honorio (Cea Paris-Saclay - Door Nord, France)

146 - Development of a Low-Carbon Concrete for EDF's Nuclear Infrastructure: Characterization, Optimization and Durability
E. Mahfoud (EDF Lab Renardières, France)

212 - Behaviour of low carbon footprint concretes : advanced mechanical properties and long term deformations
T. Pernin (CERIB, France)

231 - Optimization of Low-Carbon Supersulfated Cement: Hydration Mechanisms and Prédictive Modeling of Mechanical Performance
K. Ndiaye (CY Cergy Paris University - L2MGC, France)

18:00

End of Day 1

Thursday 21 May

08:40

Convention center opening - Check-in

08:40 - 10:00

Technical Session Topic 2.2 BIM and digital twins

060 - Combination of Scan-to-BIM and thermography for recording and visualization of the premises and trouble spots of nuclear facilities
M. Müßle (Karlsruhe Institute of Technology (KIT), Germany)

070 - Towards the adaptation of BIM models for mechanical simulation using the IFC standard
A. Maillard (Edf Lab Paris-Saclay, France)

075 - Automated Computational Framework for Design Modification Detection in Finite Element Models
A. Gupta (North Carolina State University, United States of America)

239 - 3D Modelling – Paperless Evolution
G. Williams (AtkinsRéalis, United Kingdom)

08:40 - 10:00
Technical Session Topic 3.2 Innovative construction

120 - GIS Tool for improving the Siting methodology prior to SMR devel-opment and implementation
M. Racape (30, Allée Léopold Sédar Senghor 69007 , France)

137 - Accelerating the Reinforcement–Formwork–Concreting Cycle Using Precast Reinforcement Cages: Method and Lessons Learned
P. De Barmon (Tractebel Engineering, France)

144 - Optimization of Grout Injection Pressure in Prestressing Ducts for EPR and EPR2 Containment Structures
F. Barré (Geodynamique et Structure, France)

147 - Unjacking operation in the construction of the Airplane Crash shell in Hinkley Point C
Y. Boshnakov (EGIS group, United Kingdom)

08:40 - 10:00
Special Session 2: Building the next generation of heat sink structures (1/2)

104 - Design of the HPC offshore tunnel shaft connections
D. Maddison (Jacobs, United Kingdom)

124 - HPC Offshore Tunnel to Shaft Connections – Construction
J. Hardwick (Balfour Beatty, United Kingdom)

098 - Application of Suspended Falsework for Complex Slab Construction in the Hinkley Point C Pumping Station
R. Bastos (EDF Energy Hinkley Point Power Station, United Kingdom)

154 - Gravelines EPR2 Intake channel design
L. Pavel (setec terrasol, France)

08:40 - 10:00
Special Session 4: Impact analysis on nuclear structures (1/2)

055 - Turbine disintegration hazard: implementation of a barrier wall on HM building
E. Messio (Ingérop, France)

077 - Numerical modelling of Steel-Concrete panels under impact loads
E. Messio (Ingérop, France)

112 - Scaled Missile Impact Tests on Reinforced Concrete Slabs: Numerical Simulation Perspective
C. Heckötter (Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) gGmbH, Germany)

128 - Optimization of aircraft hard impact simulation results : a focus on model detail
M. Edouard (Géodynamique et Structure, France)

10:00 - 10:30
Coffee Break

10:30 - 12:30

Technical Session Topic 1.3 Design rules

051 - Beyond design base justification for global and local failure modes
S. Meijers (Haskoning Delft, Netherlands)

052 - Design aspects of aircraft impact on a nuclear facility with rectangular protection shell
S. Meijers (Haskoning Delft, Netherlands)

209 - Circular reinforced concrete plate subjected to a pressure wave in an impact tube
E. Togni (EDF, France)

068 - Waterproofing Systems for NPP on the Danube riverbank under challenging geotechnical conditions
A. Jambor (Paks II. Atomerőmű Zrt., Hungary)

078 - Structural Design Challenges with Advanced Reactor Technologies
A. Bassam (Sargent & Lundy, United States of America)

017 - On the use of advanced modal analysis techniques for the dynamical characterization of steel-concrete structures - Application to the SCHEDULE building
M. Diaz (EDF R&D, France)

10:30 - 12:30

Technical Session Topic 3.3 Innovative construction

150 - PE-Sheathed Unbonded Tendon Systems for Nuclear Contain-ment Structures: Practical Experience, Technical Challenges, and Operational Benefits
J.B. Domage (VSL (Schweiz) AG - Construction company, Switzerland)

152 - Assessment of Soil Profile Influence on Small Modular Reactors' Seismic Responses
T.N. Nguyen (Ingérop, France)

157 - Comparative study of simplified modelling for EPR civil design
N. Bennani (SETEC, France)

187 - Early-Age Concrete Hydration through Temperature Treatment and Monitoring on the Critical Path of a Plant's Outage
V. Deffrennes (Tractebel, Belgium)

201 - High-Temperature Performance of Nuclear-Grade Ultra-High-Performance Concrete
O.A. Hisseine (McMaster University, Canada)

053 - Foundation design and construction of a nuclear facility in sand and clay layers
S. Meijers (Haskoning Delft, Netherlands)

10:30 - 12:30

Special Session 2: Building the next generation of heat sink structures (2/2)

206 - The tunnels design for the cooling circuit of the Sizewell C EPR nuclear power plant
V. Houard (CNEPE, France)

141 - SZC submerged head structures design: From the offshore buoy measurements to the reinforcement
C. Purushothama (Electricité de France, France)

058 - Reference Design of the Deep Tunnel Option for the Sizewell C Tunnel-to-Shaft Permanent Connection Structures
J. Su (AtkinsRéalis, United Kingdom)

132 - Preliminary design of the EPR2 Bugey cooling towers
A. Salomon (CNEPE, France)

255 - Road to an AI-based tool for Automatic Defects Detection on Cooling Towers
P. Stephan (EDF Lab Chatou, France)

184 - Numerical evaluation of damage and repair method for large cooling tower shell support pedestals
B. Ruffat (Tractebel, Belgium)

Special Session 8: CIGEO technical challenges for waste disposal

061 - Compressible lining solutions for deep underground tunnels: a case study including large-scale testing
L. Kerner (Gustave Eiffel University, France)

242 - Cigéo: French Industrial Centre for Geological Disposal - Generic Description and Civil Specificities
D. Cremieux (EDF Cap Ampère, France)

247 - Technical Underground Reference Framework - Focus on Design Criteria: Context and Approach Adopted for the Cigéo Project
R. Taherzadeh (ANDRA, France)

248 - Contribution of the Andra Meuse/Haute-Marne Underground Research Laboratory to the design and operation of Cigéo
E. Huret (ANDRA, France)

249 - Design and Development Perspectives of the Equipped ILW-LL disposal Cells in the Cigéo Deep Geological Repository
L.Q. Dao (ANDRA, France)

250 - Key issues to demonstrate durability of the materials for radioactive waste disposals
X. Bourbon (ANDRA, France)

12:30 - 13:30

Buffet Lunch

13:30 - 15:30

Technical Session Topic 1.4 Design rules - Seismic design

012 - Evaluation of the seismic response of structures reinforced with rigid inclusions: lessons learned from the numerical benchmark of the ANR ASIRIplus_SDS project
Y. Shen (Terrasol, France)

038 - Sliding and Rocking Behavior of Cylindrical Containers under Seismic Loading
M. Wild (Basler & Hofmann AG, Switzerland)

111 - Seismic response of sliding blocks in the Eurocode 8 of next generation
P. Labbé (Estp, France)

240 - Quantifying burial depth effects for seismic design of embedded nuclear structures
E. Oral (Egis Group, France)

117 - Seismic Stability of Shallow Foundations: Coupled Uplift-Sliding in an energy-based approach
F. Hillewaere (EDF DT, France)

129 - Seismic assessment of a base-isolated nuclear power plant using Code_Aster, within the SMATCH Benchmark framework
H. Tabache (Ingérop, France)

13:30 - 15:30

Technical Session Topic 1.5 Design rules - Ageing and mass transfer

086 - Development of a thermo-hydro-mechanical model of an un-prestressed containment vessel design for its leak-tightness assessment
A. Keo (Ingérop, France)

115 - Aging Management of Concrete Containment Structures – Standards Update
J. Tcherner (AtkinsRéalis, Canada)

122 - Shrinkage and Crack width calculation: a comprehensive and uni-fied approach
J. Poulain (SETEC, France)

133 - Study and evaluation of the containment structure under partial tendon failure conditions
T. Lan (China General Nuclear Power Design Co.ltd, ShenZhen, China)

135 - Effects of Vapor Permeability and Phase Change on Mass and Heat Transfer in Concrete
Q. Xu (Harbin Engineer University, China)

193 - Thermo–Pressure Coupling Analysis of the 1:4 Scale Prestressed Concrete Containment Vessel
J. Mao (Harbin Engineering University, China)

13:30 - 15:30

Technical Session Topic 2.3 BIM and digital twins

096 - DfMA Conversion of Reinforcement Design Delivering Productivity and Certainty at HPC
R. Bastos (EDF Energy Hinkley Point Power Station, United Kingdom)

105 - Studies on Scale Effects in Impact Scenarios on Reinforced Concrete Structures
L. Heibges (University of Kaiserslautern-Landau, Germany)

123 - Accelerating Civil Engineering for EPR Nuclear Reactors: Balancing Safety and Series Effect
J. Prevost (SETEC NUCLEAIRE, France)

138 - BIM for Civil Engineering in EPR2 Projects: A Structured and Collaborative Approach
F.A. Lauxen (EDVANCE (Le Flow), France)

163 - 3D Visualisation of Design Data for New Build Nuclear Facilities
W. Jarvis (AtkinsRéalis, United Kingdom)

222 - Airplane Impact Analysis: Provisions of International Standards and Guidelines
S. Ghadimi (Swiss Federal Nuclear Safety Inspectorate ENSI, Switzerland)

13:30 - 15:30

Technical Session Topics 4.2 & 5.2 New materials & innovative monitoring

089 - Optimizing Lightweight Protective Systems for Tornado-Driven Impacts on Steel Structures Using Aluminum Foam Technology
D. Laporte (Nuvia Structure, France)

139 - Retrofitting Shear-Deficient Concrete Members in Nuclear Civil Works: A Post-Installed Threaded-Rod Solution
O. Al-Mansouri (Hilti France, France)

140 - Extended Service Life Assessment of Post-Installed Anchoring Systems for Nuclear Civil Works
O. Al-Mansouri (Hilti France, France)

036 - Koeberg containment Integrated Leakage Rate Test and Structural Integrity Test with Optical Fibre distributed strain monitoring technology
M. Galan (EDF DTG, France)

091 - Monitoring of concrete strains in prestressed containments. Evalua-tion of the VWSG uncertainty measurement based on a 10-years testing program on Vercors containment mockup
A. Courtois (EDF, France)

199 - Deterioration and Testing of Liners Embedded in Concrete
S. Villalobos (EPRI Building 3, United States of America)

15:30 - 16:00

Coffee Break

16:00 - 18:00

Technical Session Topic 1.6 Design rules - Soil structure interaction

059 - Seismic soil-structure interaction influenced by spatial configurations of water tanks
H. Li (AtkinsRéalis, United Kingdom)

067 - Dynamic Soil-Structure Interaction of Small Modular Reactors
Y.R. Feutseu Takam (Polytechnique Montréal, Canada)

109 - Direct modelling of soil-structure interaction in nonlinear media by leveraging neural operators
E. Oral (Egis Group, France)

151 - Earthquake-Tsunami Vulnerability Analysis of Nuclear Power Plants Considering Soil-Structure Interactions
P.B. Malla (Kathmandu, Nepal)

159 - Seismic response of deeply embedded SMRs with soil-structure separation and sliding effects
T. Richir (Tractebel, Belgium)

188 - Modeling Seismic SSI of an Embedded and Isolated SMR-Type Structure in Variable Soil Conditions
P. Rangelow (Basler & Hofmann AG, Switzerland)

16:00 - 18:00

Technical Session Topic 1.7 Design rules

149 - Recent research progress on reinforced concrete nuclear contain-ment structures in earthquake-prone areas
Y. He (Harbin Engineering University, China)

165 - Use of the Convex Hull Algorithm to Rationalize Time-History Analysis Results from Shell Models
J. Douglas (AtkinsRéalis, United Kingdom)

190 - Pushover analyses : comparisons between multi-modal generalized E-DVA method, the new EC8 method and time-history analysis
O. Lherminier (Egis, France)

203 - Design Provision for Corner-Bolted Steel-to-Concrete End-Plate Connections with H, SHS, and cruciform profiles
M. Sonna Donko (Framatome, France)

032 - The use of Fibre reinforced Concrete in Nuclear environment cracking control, durability and sustainability
D.R. Benoit (BEKAERT, France)

034 - Automatic Construction Joint Assessment : a key tool for better efficiency
M. Mouadden (Setec nucléaire, France)

16:00 - 18:00

Special Session 1: Advancements in civil engineering codes and standards for nuclear facilities

039 - What are the important changes in the new Eurocode 8?
P. Bisch (Egis Industries, France)

079 - Validation of linear models for seismic design of NPP regarding possible effects of raft uplift. Overview of the recommendations provided by the AFCEN RCC-CW code
A. Courtois (EDF, France)

094 - The development of the second generation of Eurocodes and the consequence on the development of the AFCEN RCC-CW code
P. Bisch (Egis Industries, France)

108 - A New AFCEN Guide To Manage Actions And Actions Combinations In The Code RCC-CW
P.A. Nazé (Géodynamique et Structure, France)

162 - Extending yield line theory to dynamic impact: A simplified method for concrete reinforcement slab verification
E. Messio (Ingérop, France)

208 - RCC-CW 2025 release - New appendix for impact loadings
A. Darraba (EDF, France)

16:00 - 18:00

Special Session 7: SMRs, overcoming industrialization and modularity barriers

042 - Motivation for 3D Modular Seismic Control Systems
D. Siepe (GERB Schwingungsisolierungen GmbH & Co. KG, Germany)

043 - Techno-economic, Logistics, and Strategic Framework for SMR Site Selection in Northern Canada
M. Naderi (Polytechnique Montréal, Canada)

228 - Overcoming Industrialization and Modularity Barriers in Small Modular Reactor Deployment
H. Labourdette (HLE Advisor, France)

230 - From DUS Buildings to SMR Industrialization: Lessons from a Successful Construction Standardization Program
A. Reversat (Campenon Bernard nucléaire, France)

232 - Making sense of Modularity in sodium-cooled fast reactors
P. Lecacheux (HEXANA, France)

241 - Standardizing SMR design: accounting for ground and site seis-micity variability by ground modification and seismic isolation
E. Silvano (EGIS, France)

18:15 - 19:15
TINCE'26 PhD Award Session + Sfen Energy Architecture Award Ceremony

19:15
End of Day 2

20:00 - 22:30
TINCE'26 Conference Party + TINCE'26 PhD Award Ceremony

Sponsored by Sfen

Friday 22 May

07:30
Convention center opening - Check-in

08:00 - 10:00
Technical Session Topic 1.8 Design rules - Optimising and simplifying design

196 - The Benefits of Experienced Engineering Judgement in the Substantiation of Nuclear Civil Structures
S. Jones (NNB Genco HPC Ltd, United Kingdom)

168 - Design optimizations of galleries under an earthquake load case
M. Varnier (Tractebel, France)

202 - Potential conservatisms in engineering practices on substantiation and design of Civil Structures considering the High Energy Line Break load
T.A. Nguyen (Edf Lab Paris-Saclay, France)

211 - Influence of Connection Normalization on the Flexural Behavior of Reinforced Concrete Beams with Mechanical Rebar Couplers: An Experimental Investigation Using Advanced Monitoring Techniques
J.M. Dolo (Eiffage Infrastructures, 3-7 place de l'Europe, Vélizy-Villacoublay, France, France)

213 - Performance Evaluation of RC Shear Walls and columns with Mechanical Couplers: Insights from Tensile and Quasi-Static Cyclic Lateral Loading Tests
E. Ferrier (Laboratoire LMC2, University Claude Bernard Lyon 1, 82 bd Niels Bohr, 69100 Villeurbanne, France, France)

214 - Experimental and Numerical Investigation of Reinforced Concrete Connections with Sigma 8 Couplers and Post-Threading Normalization
E. Ferrier (Laboratoire LMC2, University Claude Bernard Lyon 1, 82 bd Niels Bohr, 69100 Villeurbanne, France, France)

08:00 - 10:00
Technical Session Topic 1.9 Design rules - Seismic design

148 - Seismic fragility analysis of nuclear containment structures considering other actions: a brief review
G.C. Cai (Harbin Engineering University, China)

158 - Transient calculations for the seismic reassessment of a NPP supported by nonlinear aseismic bearings
R. Chevalier (Tractebel, France)

179 - Seismic Reinforcement of the large Polar Crane of ILL-RHF by damping suspension system
N. Baghdadi (SIXENSE NECS, France)

181 - Evaluating Seismic-Induced Sliding Displacements through Analytical Methods: Case Study of HPB Pumping Station
N. Kalaba (SIXENSE NECS, France)

183 - Optimization of seismic-induced displacements – Constitutive law of pre-stressed springs in the modeling of soil–structure interaction
J.P. Rojas Manrique (SIXENSE NECS, France)

192 - Comparative Assessment of Seismic Floor Response Spectrum Generation Methods for Nuclear Facilities
B. Wilding (Robert Bird Group, United Kingdom)

08:00 - 10:00
Technical Session Topic 3.4 Innovative construction

215 - Rebar Sequencing Software
P. Merigeau (SENDIN - 9 rue des Maraîchers CS 10015, 91165 Longjumeau Cedex, France)

216 - Rules and Best Practices for Creating a Rebar Plan
P. Merigeau (SENDIN - 9 rue des Maraîchers CS 10015, 91165 Longjumeau Cedex, France)

218 - Rebar Twin Project
J.M. Dolo (Eiffage Infrastructures, 3-7 place de l'Europe, Vélizy-Villacoublay, France, France)

219 - Development of a Gelling Grout for the Pre-stressing of Nuclear Containments
M. Freynet (Eiffage Infrastructures, 3-7 place de l'Europe, Vélizy-Villacoublay, France, France)

221 - Design of Equitension Jacks
J.M. Dolo (Eiffage Infrastructures, 3-7 place de l'Europe, Vélizy-Villacoublay, France, France)

233 - Design and Validation of Innovative Seismic Support Systems for ITER MTCB (Magnetic Cryostat Test Benches): Combined Pendu-lum/Spherical Approach and Field Feedback
R. Jouffroy (NUVIA STRUCTURE, France)

08:00 - 10:00
Special Session 6: Innovative approach to the construction of steel-concrete structures (1/2)

018 - Steel concrete and industrial application in civil engineering
S. Dehais (SETEC NUCLEAIRE, France)

020 - Steel Concrete structure shells with integrated liners : a novel approach
E. Gosselin (SETEC NUCLEAIRE, France)

023 - Fully or partially composite approach for Steel-Concrete nuclear structures ? Make your choice
P.M. Alliard (Edf Nuward, France)

041 - The Justification of resistance of Steel-Concrete Panels based on Equilibrium Equations
P. Bisch (Egis Industries, France)

082 - Steel Concrete Structures – Large scale anchorage testing program on SCHEDULE Mock-up
G. Verdun (LA GRANDE HALLE, France)

083 - RCC-CW 2025 Towards Steel Concrete Structures (SCS) Structures Mixtes Modulaires (SMM)
J. Niepceron (EDF DISC DT, France)

10:00 - 10:30
Coffee Break

10:30

Closure of Exhibition and Poster Area

10:30 - 12:30

Technical Session Topic 1.10 Design rules

223 - Reasonable Failure Criteria and Failure Modes for Internal Pressure Fragility Assessment of Steel Containment Vessel
J. Choi (Korea Atomic Energy Research Institute, Republic of Korea)

229 - On the design and constructability of diaphragm plate steel compo-site structures
G. Stoyanov (structural engineer, Canada)

145 - Overpressure propagation inside nuclear buildings via fast transient dynamics simulations
M. Barakat (SIXENSE NECS, France)

063 - Numerical Assessment of Explosion Protections for Nuclear Facilities
P. Wörndle (HOCHTIEF Engineering GmbH, Germany)

040 - Nonlinear dynamic effects of uplift in a Pasternak modelling
P. Bisch (Egis Industries, France)

136 - Identification of Nonlinear Parameters in Reinforced Masonry Panels under Diagonal Compression using DIC
L. Collin (LMPS - ENS Paris Saclay, EDF R&D ERMES, France)

194 - Thermal load analysis for a nuclear building: linear vs. non-linear analyses
W.B. Casas Figueroa (Egis, France)

10:30 - 12:30

Technical Session Topic 2.4 BIM and digital twins

087 - Seismic Ground Motion Prediction for Nuclear Facilities using Fourier Neural Operators: A Case Study of Kashiwazaki-Kariwa
M. Bakhkhakh (Electricité de France (EDF), R&D Department, France)

131 - Augmenting 3D Neural Operators with Diffusion Models for Broadband Earthquake Responses
N. Perrone (Université Paris-Saclay, Laboratoire de Mécanique Paris-Saclay - Politecnico di Milano, Italy)

171 - Advances in the calculation and presentation of Floor Response Spectra in complex structures
C. Pearce (AtkinsRéalis, United Kingdom)

172 - Design, Construction, and Validation of an Intelligent Digital Twin for Predictive Maintenance in Nuclear Piping Systems
H.K. Sandhu (Idaho National Laboratory, United States of America)

173 - Three-dimensional (3D) reconstruction technique for reinforced concrete structures: a brief review
B.H. Sun (Harbin Engineering University, China)

227 - BIM - Interaction between Master CW and Master GL
M. Haye (EDF, France)

246 - Learning-by-doing: The replication of execution reinforcement design models and construction phase innovations on a large-scale Nuclear Power project
S. Jamaa (Nova North, United Kingdom)

10:30 - 11:50

Special Session 4: Impact analysis on nuclear structures (2/2)

130 - Evaluation of Floor Response Spectra due to Airplane Crash on Nuclear Containment Building
A. Gupta (North Carolina State University, United States of America)

161 - SPH Aircraft modelling for Aircraft Impact analysis
J.F. Cornejo-Maceda (Tractebel, France)

191 - Comparing Finite Element Approaches for Steel Framework Resistance under Tornado Impact
D. Toukam (Ingérop, France)

243 - Non-Harmfulness Criterion Based on Pseudo-Velocity for the Mechanical Justification of Equipment Subjected to Vibrations Induced by Aircraft Impact
A. Darraba (EDF, France)

10:30 - 12:30

Special Session 6: Innovative approach to the construction of steel-concrete structures (2/2)

088 - Implementation and validation of a compatible steel concrete element
A. Perret du Cray (Setec Travaux Publics et Industriels, France)

116 - Numerical characterization of the mechanical behavior of SC attachments on SC structures
M. Huguet (Egis, France)

226 - Seismic Analysis of a Steel-Plate Composite Structure Using Time History Analysis; Comparison of Different Structure Modelling and Soil-Structure Interaction Methodologies
S. Nanakasse (Nuvia Structure, France)

Technical Session Topic 1.11 Design rules - Geotechnics

069 - A comparative study of ground improvement techniques for the EPR2 Gravelines project
V.S. Vo (EDVANCE (Le Flow), France)

084 - A multi-level approach for the geotechnical design of soilreinforcement for two EPR2 units
M. Cahn (Terrasol Setec, France)

085 - Accounting for ground reinforcements in dynamic soil-structure interaction analyses: from wave propagation to the design of reinforcing elements
J. Pérez (Terrasol, France)

12:45 - 13:00

Closing Session

13:00

End of TINCE'26

Posters

Topic 1 Design rules

019 - Steel concrete : Promising perspectives for APC shell - Application to the CALOGENA SMR project
M. Gosselin (SETEC NUCLEAIRE, France)

074 - Development of semi-analytical methods for calculating the impact of projectiles on structural steel elements
C. Paternoga (Ecole Centrale Nantes, France)

090 - Stainless Steel Tower
L. Fajolles (Baudin Chateauneuf, France)

114 - Modeling and Analysis Technology for Seismic Analysis of Nuclear Power Plants Under Complex Soil Foundation Conditions
T. Zhang (China Nuclear Power Engineering Company Ltd, China)

127 - Thermo-Mechanical Modelling of the Small Modular Reactor Reactor Pit under Cyclic High-Temperature Exposure
P. Lesther (Ingérop, France)

153 - A biaxial energy-equivalence method for seismic uplift of raft foundations: Python implementation, NL transient validation on a simplified lumped-mass stick model, and solver-robustness study
G. Remesha (Orano Projets, France)

169 - Assessment of the Impact of an Ejected Tank Endcap on a Reinforced Concrete Slab and Characterization of Resulting Secondary Missiles
Y. El-Rabih (Tractebel, France)

197 - Comparative Study of Reinforced Concrete Design for Nuclear Structures Using ETC-C & ACI 349: Case Study for HPC EPR Nuclear Island Building
H. Phan (EGIS, United Kingdom)

217 - Reinforced Concrete Rebar Fitter Diploma
P. Merigeau (SENDIN - 9 rue des Maraîchers CS 10015, 91165 Longjumeau Cedex, Czech Republic)

Topic 2 BIM and digital twins for new and existing nuclear civil structures

028 - Effective exchange of digital twin and BIM-related data between diverse technologies and software tools using ontology-based protocol
D. Daniska (Wai.blue, Slovakia)

045 - Sub-structuring in Finite Element Calculations
T. Marmeth (Areva TA, France)

049 - MySurvey DAC: Civil Structure Compliance Analysis with 3D Scanning for New Nuclear Projects
M. Noé (Cyclife Digital Solutions, France)

065 - Optimizing Nuclear Construction through Advanced Work Packag-ing and AI-driven digital tools
S. Le Baut (Assystem, France)

066 - Enhancing Interoperability and Data Continuity in Nuclear Civil Engineering through PLM–BIM Integration
A. Dellagi (Assystem, France)

174 - Influence of Boundary Conditions of the Rotationally Symmetric Structure Model
J. Stepan (ÚJV Řež, a. s., divize ENERGOPROJEKT PRAHA, Czech Republic)

182 - Creating a digital twin for the only large-scale nuclear facility in Denmark
L. Marchese (ARTELIA, France)

220 - Requirements Management and Applicable Reference Framework for the EPR2
B. Nouvelot (Eiffage Infrastructures, 3-7 place de l'Europe, Vélizy-Villacoublay, France, France)

224 - Scan to BIM: Capture real-world data and integrate it into the models
P. Fernandes (Assystem EOS - Etablissement de Lyon, France)

Topic 3 Innovative construction methods and lessons learned on construction sites

155 - Bridging the gap between theory and reality – a case study on extending 5,900 shear reinforcements with post-installed bars
A. Heirbault (Tractebel, Belgium)

Topic 4 New materials for future nuclear projects

125 - Buried High-Density PolyEthylene pipes for nuclear safety classi-fied cooling system
M. Laug (CNEPE, France)

166 - Buried GRP pipelines for the cooling water system
F.X. Portais (CNEPE, France)

235 - Modular wall systems
R. Jouffroy (NUVIA STRUCTURE, France)

Topic 5 Innovative monitoring techniques and long-term operation

126 - Effective Aging Management for Civil Structures
U. Wildner (Framatome GmbH, Germany)

156 - Graded-approach in assessment of irradiation effects on Concrete Biological Shielding wall
L. Phocco Laguna (Tractebel, France)

164 - Viscoelastic behaviour of reinforced concrete structures: a study of the effects on the reinforcement design of nuclear power plants
G. Ruocci (EGIS, France)

PLAN YOUR STAY

HOW TO COME ...

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> Motorways A10 / A85
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