

## Scientific Program scheme

Time available by talk is : 15' presentation + 5' questions (20 mins max)	Oral Contribution Presenter	start	40+6 end
<b>Monday 15 June 2026 (St Trinnean's room, St Leonard's Hall, 18 Holyrood Park Rd, Edinburgh EH16 5AY)</b>			
Welcome Aperó and Workshop Registration		18:00	22:00
<b>Tuesday 16 June 2026 (South Hall, 18 Holyrood Park Rd, Edinburgh EH16 5AU)</b>			
Workshop Registration		08:00	08:45
Workshop Introduction & Welcome		Hongye Zhang	08:45 09:00
<b>Session 1: Innovative HTS modelling methods and tools</b>			
Screening current simulation comparison between T-A FEM with thin film approximation and A-V FEM		So Noguchi	09:00 09:20
Assessing the Applicability of the T-A Formulation for Parallel-Field Magnetisation of an Insulated Double-Pancake Coil		Zhenkai Cai	09:20 09:40
Finite element simulation of high temperature superconductors using H-formulation with NGSolve		Zakaria Houta	09:40 10:00
Coffee Break 30'		10:00	10:30
Electromagnetic Integral Equation Modeling of Large-Scale 3D no-insulation coils		Xiang Dai	10:30 10:50
Modeling of transient electromagnetic behavior in short REBCO samples during transport characterization using a 3D volume integral method based on the J-formulation		Hugo Sourice	10:50 11:10
A hard-constrained physics-guided recurrent neural network (hpGRNN) for modeling the quench dynamics of 2G HTS coated conductors		Sirois Frédéric	11:10 11:30
The energy variational method for the electromagnetic modeling of high-temperature superconductors		Sijian Wang	11:30 11:50
Lunch Break 60'		11:50	12:50
Novel multiphysics modelling method for metal-insulated REBCO high-field magnets		Anang Dadhich	12:50 13:10
Hybrid Electromagnetic Modelling and Physics-Guided Machine Learning for Critical Current Prediction in HTS Coils		Jiyuan Gao	13:10 13:30
A Cloud-Native PDE-Constrained Optimization Framework for Advanced Modelling of Superconductors and Functional Magnetic Materials		Yusen Guo	13:30 13:50
Progress of the BELFEM code: new features, benchmarks and applications		Gregory Giard	13:50 14:10
Coffee Break 20'		14:10	14:30
Analytical solution for the magnetic field and inductance of helically wound HTS tapes using a magnetic scalar-potential formulation		Kevin Berger	14:30 14:50
2D frequency-domain model for the homogeneous J-A formulation of the Maxwell equations		Frederic T	14:50 15:10
T-E formulation and a mixed finite element method for thin-film magnetization problems		Leonid Prigozhin	15:10 15:30
Comparison of Numerical 3D Models for Thin-Wall HTS Bulk Pulsed-field Magnetization		Santiago Guijosa	15:30 15:50
Coffee Break 10'		15:50	16:00
A Fast 3D J-model for Electromagnetic Analysis of HTS Structures Under Combined Operating Conditions		Xiang Kang	16:00 16:20
A benchmark for the electromagnetic analysis of non-insulated or metal-insulated REBCO-based coils Operating Conditions		Marco Breschi	16:20 16:40
<b>Presentations from sponsors</b>			
EastSuper: The research and industrialization progress of 2G-HTS based on MOCVD technology in China		Xue Shengchen	16:40 16:55
Renaissance Fusion : Modified Power Law using the A based Formulation for Quench Modelling in Axisymmetric Non-Insulated HTS Pancake Coils		Mohammed Sayed MIAH	16:55 17:10
Proxima Fusion : HTS Magnet Design and Technology Development at Proxima Fusion		Nicolò Riva	17:10 17:25
End of the first day		17:25	
<b>Wednesday 17 June 2026 (Alder Theatre, Nucleus Building, King's Buildings, Thomas Bayes Rd, Edinburgh EH9 3FG)</b>			
<b>Session 1: Innovative HTS modelling method and tools</b>			
Fast electromagnetic modeling of complex structure and large-scale 3D no-insulation REBCO coils using T-A formulation Operating Conditions		Jianhua Liu	09:00 09:20
3D Modelling of HTS Coils Using the H-Conforming Foil Conductor Model		Elias Paakkunainen	09:20 09:40
<b>Session 2: Multiphysics and AC loss/Quench Modelling</b>			
Multiphysics Modeling and Performance Analysis of a 35.6 T All-Superconducting User Magnet System		Qiuliang Wang	09:40 10:00
Three Dimensional Simulation and Experimental Validation of Quench Behaviour in Non-Planar Direct Wound NI-HTS Magnets		Aiden Robert Hightower	10:00 10:20
Coffee Break 20'		10:20	10:40
Electrical Network Model Coupled with 2D Axisymmetric Magnetothermal FEM to Investigate Quench Dynamics in NI Coils		Noël Strasser	10:40 11:00
3D Quench Analysis of Full-Spectrum REBCO Coils by the H-Phi Formulation with Surface Dissipation Method		Shuowei Gao	11:00 11:20
Reduced Order Finite Element Modelling of AC Loss in HTS Twisted Stacked Tape Cables		Julien Dular	11:20 11:40
AC losses in a round cable made from filamentized CC tapes		Mykola Solovyov	11:40 12:00
Lunch Break & POSTER SESSION 1 150'		12:00	14:30
Electromagnetic-Thermal Modeling of Drilled MgB <sub>2</sub> Bulks for Enhanced Trapped-Field Performance		Michela Fracasso	14:30 14:50
Transient 3D magneto-thermal finite element analysis of metal-insulation racetrack coils		Erik Schnaubelt	14:50 15:10
Anisotropic Homogenization for 3D FE Quench Simulation of Large-Scale NI and MI HTS Magnets		Louis Denis	15:10 15:30
Excessive screening current stress, plastic damage, and the electric field center shift		Jeseok Bang	15:30 15:50
Coffee Break 10'		15:50	16:00
<b>Session 3: Fusion and Other Applications</b>			
Modelling, designing and improving scalable HTS magnetic screens for rotating machines		Nicolas Rotheudt	16:00 16:20
Design Optimisation of a 12 T Levitated-Dipole Magnet that Meets Plasma and Zero-Field requirements		Emily-Kei Brewerton	16:20 16:40
<b>Presentations from sponsors</b>			
COMSOL		16:40	16:55
CryoPride		16:55	17:10
HynHe		17:10	17:25
Lab Tour - Applied Superconductivity Lab at Edinburgh 95'		17:25	19:00
Social Dinner at the Playfair Library, South Bridge, Edinburgh EH8 9YL (with bus transfer) 180'		19:00	22:00
<b>Thursday 18 June 2026 (Alder Theatre, Nucleus Building, King's Buildings, Thomas Bayes Rd, Edinburgh EH9 3FG)</b>			
<b>Session 3: Fusion and Other Applications</b>			
Electromagnetic Design and AC Loss Reduction Strategies for a 10 MW Air-Core Axial-Flux Fully HTS Wind Turbine Generator		Shuangrong You	09:00 09:20
Electromagnetic simulations of a CASPER undulator using the H-φ formulation		Alexandre Arsenaault	09:20 09:40
Numerical Modelling of an HTS Saturated-Core Reactor as a Power Flow Control Device		Leonardo Míúdo	09:40 10:00
Modelling quench propagation in indirectly cooled HTS winding packs for fusion applications		A. Zappatore	10:00 10:20
Coffee Break & Group Photo 30'		10:20	10:50
3D Mechanical Analysis of HTS Cables Under Screening Current Loads for use in Fusion Applications		Moray Arbuckle	10:50 11:10
Multiscale Quench Modeling of the SPARC Toroidal Field Model Coil		Daniel Korsun	11:10 11:30
CORT Cable Carrying AC Current: a Proposed Benchmark for Full 3D Modeling of HTS		Francesco Grilli	11:30 11:50
Electromagnetic Modeling of HTS Cable-in-Conduit Conductors for Fusion Applications Under High-Current Ramps		Gabriel dos Santos	11:50 12:10
Lunch Break & POSTER SESSION 2 150'		12:10	14:40
Fast Recovery SFCL for Future Electrified and Hydrogen-powered Aircraft under Gaseous Helium Cooling		Dedao Yan	14:40 15:00
Summary, awards, conclusion - End of the workshop 120'		15:00	17:00