

Scientific Program Scheme			
Time available by talk is : 15' presentation + 5' questions (20 mins max)	Oral Contribution Presenter	start	39+8 end
Monday 15 June 2026 (St Trinnean's room, St Leonard's Hall, 18 Holyrood Park Rd, Edinburgh EH16 5AY)			
Welcome Aperó and Workshop Registration		18:00	21:00
Tuesday 16 June 2026 (South Hall, 18 Holyrood Park Rd, Edinburgh EH16 5AU)			
Workshop Registration		8:00	8:45
Workshop Introduction & Welcome		Hongye Zhang	8:45 9:00
Session 1: Innovative HTS modelling methods and tools			
Session Chair: Hongye Zhang			
Screening current simulation comparison between T-A FEM with thin film approximation and A-V FEM	So Noguchi	9:00	9:20
Assessing the Applicability of the T-A Formulation for Parallel-Field Magnetisation of an Insulated Double-Pancake Coil	Zhenkai Cai	9:20	9:40
Finite element simulation of high temperature superconductors using H-formulation with NGSolve	Zakaria Houta	9:40	10:00
Electromagnetic Integral Equation Modeling of Large-Scale 3D no-insulation coils	Xiang Dai	10:00	10:20
Coffee Break 25'		10:20	10:45
Session Chair: Frederic Trillaud			
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	10:45	11:05
A hard-constrained physics-guided recurrent neural network (hPGRNN) for modeling the quench dynamics of 2G HTS coated conductors	Frédéric Sirois	11:05	11:25
The energy variational method for the electromagnetic modeling of high-temperature superconductors	Sijian Wang	11:25	11:45
Novel multiphysics modelling method for metal-insulated REBCO high-field magnets	Anang Dadhich	11:45	12:05
Lunch Break & HTS Modelling Workgroup Board Meeting 60'		12:05	13:05
Session Chair: Min Zhang			
Hybrid Electromagnetic Modelling and Physics-Guided Machine Learning for Critical Current Prediction in HTS Coils	Jiyuan Gao	13:05	13:25
A Cloud-Native PDE-Constrained Optimization Framework for Advanced Modelling of Superconductors and Functional Magnetic Materials	Yusen Guo	13:25	13:45
Progress of the BELFEM code: new features, benchmarks and applications	Gregory Giard	13:45	14:05
Analytical solution for the magnetic field and inductance of helically wound HTS tapes using a magnetic scalar-potential formulation	Kevin Berger	14:05	14:20
Coffee Break 25'		14:20	14:45
Session Chair: Frédéric Sirois			
2D frequency-domain model for the homogeneous J-A formulation of the Maxwell equations	Frederic Trillaud	14:45	15:05
3D Modelling of HTS Coils Using the H-Conforming Foil Conductor Model	Elias Paakkunainen	15:05	15:25
Comparison of Numerical 3D Models for Thin-Wall HTS Bulk Pulsed-field Magnetization	Santiago Gujosa	15:25	15:45
A Fast 3D J-model for Electromagnetic Analysis of HTS Structures Under Combined Operating Conditions	Xiang Kang	15:45	16:05
Coffee Break 25'		16:05	16:30
Session Chair: Mark Ainslie			
A benchmark for the electromagnetic analysis of non-insulated or metal-insulated REBCO-based coils	Marco Breschi	16:30	16:50
Fast electromagnetic modeling of complex structure and large-scale 3D no-insulation REBCO coils using T-A formulation	Jianhua Liu	16:50	17:10
Presentations from sponsors			
EastSuper: The research and industrialization progress of 2G-HTS based on MOCVD technology in China	Shengchen Xue	17:10	17:25
Renaissance Fusion: Recent progress in magnet development, construction and operation	Chris Acheson	17:25	17:40
Introduction of ESAS Early Careers Professionals	Jun Ma	17:40	17:45
End of the first day		17:45	
Wednesday 17 June 2026 (Larch Theatre, Nucleus Building, King's Buildings, Thomas Bayes Rd, Edinburgh EH9 3FG)			
Session 2: Multiphysics and AC loss/Quench Modelling			
Session Chair: Kevin Berger			
Multiphysics Modeling and Performance Analysis of a 35.6 T All-Superconducting User Magnet System	Qiuliang Wang	9:00	9:20
Three Dimensional Simulation and Experimental Validation of Quench Behaviour in Non-Planar Direct Wound NI-HTS Magnets	Aiden Robert Hightower	9:20	9:40
Electrical Network Model Coupled with 2D Axisymmetric Magnetothermal FEM to Investigate Quench Dynamics in NI Coils	Noël Strasser	9:40	10:00
3D Quench Analysis of Full-Spectrum REBCO Coils by the H-Phi Formulation with Surface Dissipation Method	Shuowei Gao	10:00	10:20
Coffee Break 25'		10:20	10:45
Session Chair: Naoyuki Amemiya			
Reduced Order Finite Element Modelling of AC Loss in HTS Twisted Stacked Tape Cables	Julien Dular	10:45	11:05
AC losses in a round cable made from filamentized CC tapes	Mykola Soloviyov	11:05	11:25
Electromagnetic-Thermal Modeling of Drilled MgB ₂ Bulks for Enhanced Trapped-Field Performance	Michela Fracasso	11:25	11:45
Transient 3D magneto-thermal finite element analysis of metal-insulation race-track coils	Erik Schnaubelt	11:45	12:05
Remarks by Prof Guangzhao Mao, Head of School of Engineering, The University of Edinburgh 10'		12:05	12:15
Session Chair: Huadong Yong & Shuangrong You			
Lunch Break & POSTER SESSION 1 150'		12:15	14:45
Session Chair: Nicolò Riva			
Anisotropic Homogenization for 3D FE Quench Simulation of Large-Scale NI and NI HTS Magnets	Louis Denis	14:45	15:05
Session 3: Fusion and Other Applications			
A Systematic Analysis Method for High-Field Superconducting Magnets under Coupled Multiple Thermal Loads in Fusion Devices	Jinxing Zheng	15:05	15:25
Presentations from sponsors			
HymHe: Product Introduction of 20-60K Cryogenic Helium Circulation System	Valens Liang & Yang Gang	15:25	15:40
Proxima Fusion: HTS Magnet Design and Technology Development at Proxima Fusion	Nicolò Riva	15:40	15:55
COMSOL: Recommended Approaches to Modelling Current-Driven HTS Coils in COMSOL	Nathaniel Davies	15:55	16:10
Session Chair: Shuangrong You & Adil Shah			
Coffee Break & Lab Tour - Superconducting Electrical Futures Lab (SEFL) at Edinburgh 120'		Group 1 & 2 & 3 Group 4 & 5 & 6	16:10 17:10 17:10 18:10
Shuttle Bus to Dinner Venue - Playfair Library, South Bridge, Edinburgh EH8 9YL (Latest departure 18:30; Arrival by 19:00)			18:10 18:30
Pre-dinner drinks reception and Scottish arts performance (sponsored by EastSuper and Shanghai Superconductor) Edinburgh EH8 9YL 45'			19:00 19:45
Session Chair: Markus Mueller			
Dinner at the Playfair Library, South Bridge, Edinburgh EH8 9YL 135'		19:45	22:00
Thursday 18 June 2026 (Larch Theatre, Nucleus Building, King's Buildings, Thomas Bayes Rd, Edinburgh EH9 3FG)			
Session 3: Fusion and Other Applications			
Session Chair: Francesco Grilli			
Electromagnetic Design and AC Loss Reduction Strategies for a 10 MW Air-Core Axial-Flux Fully HTS Wind Turbine Generator	Shuangrong You	9:00	9:20
Electromagnetic simulations of a CASPER undulator using the H-phi formulation	Alexandre Arsenault	9:20	9:40
Numerical Modelling of an HTS Saturated-Core Reactor as a Power Flow Control Device	Leonardo Miúdo	9:40	10:00
Modelling quench propagation in indirectly cooled HTS winding packs for fusion applications	Andrea Zappatore	10:00	10:20
Coffee Break, Group Photo & HTS Modelling Workgroup New Board Members Announcement 40'		10:20	11:00
Session Chair: Fedor Gömöry			
3D Mechanical Analysis of HTS Cables Under Screening Current Loads for use in Fusion Applications	Moray Arbuckle	11:00	11:20
Multiscale Quench Modeling of the SPARC Toroidal Field Model Coil	Daniel Korsun	11:20	11:40
CORT Cable Carrying AC Current: a Proposed Benchmark for Full 3D Modeling of HTS	Francesco Grilli	11:40	12:00
Electromagnetic Modeling of HTS Cable-in-Conduit Conductors for Fusion Applications Under High-Current Ramps	Gabriel dos Santos	12:00	12:20

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Session Chair: Weijia Yuan & Adil Shah			
Lunch Break & POSTER SESSION 2 150'		12:20	14:50
Session Chair: Markus Mueller			
Modelling, designing and improving scalable HTS magnetic screens for rotating machines	Nicolas Rotheudt	14:50	15:10
Design Optimisation of a 12 T Levitated-Dipole Magnet that Meets Plasma and Zero-Field requirements	Emily-Kel Brewerton	15:10	15:30
Fast Recovery SFCL for Future Electrified and Hydrogen-powered Aircraft under Gaseous Helium Cooling	Dedao Yan	15:30	15:50
Coffee Break 25'		15:50	16:15
Session Chair: Hongye Zhang			
Summary, awards, conclusion - End of the workshop 45'		16:15	17:00