Scientific Program Scheme

Time avalaible by talk is : 15' presentation + 5' questions (20 mins max)	Oral Contribution Presenter	start	40+6 end
Monday 15 June 2026（St Trinnean's room, St Leonard's Hall, 18 Holyrood Park Rd, Edinburgh EH16 5AY）			
Welcome Apero and Workshop Registration		17:00	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			
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 15'		10:20	10:35
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	10:35	10:55
A hard-constrained physics-guided recurrent neural network (hPGRNN) for modeling the quench dynamics of 2G HTS coated conductors	Sirois Frédéric	10:55	11:15
The energy variational method for the electromagnetic modeling of high-temperature superconductors	Sijian Wang	11:15	11:35
Novel multiphysics modelling method for metal-insulated REBCO high-field magnets	Anang Dadhich	11:35	11:55
Lunch Break 60'		11:55	12:55
Hybrid Electromagnetic Modelling and Physics-Guided Machine Learning for Critical Current Prediction in HTS Coils	Jiyuan Gao	12:55	13:15
A Cloud-Native PDE-Constrained Optimization Framework for Advanced Modelling of Superconductors and Functional Magnetic Materials	Yusen Guo	13:15	13:35
Progress of the BELFEM code: new features, benchmarks and applications	Gregory Giard	13:35	13:55
Analytical solution for the magnetic field and inductance of helically wound HTS tapes using a magnetic scalar-potential formulation	Kevin Berger	13:55	14:15
Coffee Break 10'		14:15	14:25
2D frequency-domain model for the homogeneous J-A formulation of the Maxwell equations	Frederic Trillaud	14:25	14:45
3D Modelling of HTS Coils Using the H-Conforming Foil Conductor Model	Elias Paakkunainen	14:45	15:05
Comparison of Numerical 3D Models for Thin-Wall HTS Bulk Pulsed-field Magnetization	Santiago Guijosa	15:05	15:25
A Fast 3D J-model for Electromagnetic Analysis of HTS Strictures Under Combined Operating Conditions	Xiang Kang	15:25	15:45
Coffee Break 10'		15:45	15:55
A benchmark for the electromagnetic analysis of non-insulated or metal-insulated REBCO-based coils Operating Conditions	Marco Breschi	15:55	16:15
Fast electromagnetic modeling of complex structure and large-scale 3D no-insulation REBCO coils using T-A formulation Operating Conditions	Jianhua Liu	16:15	16:35
T-E formulation and a mixed finite element method for thin-film magnetization problems	Leonid Prigozhin	16:35	16:55
Presentations from sponsors			
EastSuper：The research and industrialization progress of 2G-HTS based on MOCVD technology in China	Shengchen Xue	16:55	17:10
HynHe：Product Introduction of 20–60K Cryogenic Helium Circulation System	Valens Liang&Yang Gang	17:10	17:25
Renaissance Fusion: Recent progress in magnet development, construction and operation	Chris Acheson	17:25	17:40
End of the first day		17:40	
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			
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 15'		10:20	10:35
Reduced Order Finite Element Modelling of AC Loss in HTS Twisted Stacked Tape Cables	Julien Dular	10:35	10:55
AC losses in a round cable made from filamentized CC tapes	Mykola Solovyov	10:55	11:15
Electromagnetic–Thermal Modeling of Drilled MgB_2 Bulks for Enhanced Trapped-Field Performance	Michela Fracasso	11:15	11:35
Transient 3D magneto-thermal finite element analysis of metal-insulation racetrack coils	Erik Schnaubelt	11:35	11:55
Lunch Break & POSTER SESSION 1 150'		11:55	14:25
Anisotropic Homogenization for 3D FE Quench Simulation of Large-Scale NI and MI HTS Magnets	Louis Denis	14:25	14:45
Excessive screening current stress, plastic damage, and the electric field center shift	Jeseok Bang	14:45	15:05
Session 3: Fusion and Other Applications			
Modelling, designing and improving scalable HTS magnetic screens for rotating machines	Nicolas Rotheudt	15:05	15:25
Design Optimisation of a 12 T Levitated-Dipole Magnet that Meets Plasma and Zero-Field requirements	Emily-Kei Brewerton	15:25	15:45
Coffee Break 15'		15:45	16:00
Presentations from sponsors			
COMSOL	TBC	16:00	16:15
CryoPride	TBC	16:15	16:30
Proxima Fusion ： HTS Magnet Design and Technology Development at Proxima Fusion	Nicolò Riva	16:30	16:45
Lab Tour - Applied Superconductivity Lab at Edinburgh 90'		16:50	18:20
Social Dinner at the Playfair Library, South Bridge, Edinburgh EH8 9YL (with bus transfer) 180'		19:00	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			
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-ϕ 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 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
Fast Recovery SFCL for Future Electrified and Hydrogen-powered Aircraft under Gaseous Helium Cooling	Dedao Yan	12:10	12:30
Lunch Break & POSTER SESSION 2 150'		12:30	15:00
Summary, awards, conclusion - End of the workshop 120'		15:00	17:00