

RADCOR 2023

16th International Symposium on Radiative Corrections: Applications of Quantum Field Theory to Phenomenology

28 May - 2 June 2023

Crieff Hydro Hotel Crieff,
Scotland, UK



THE UNIVERSITY
of EDINBURGH

MONDAY Morning

08:00	Breakfast	
	Meikle Restaurant	07:30 - 08:15
09:00	Sinead Farrington - Highlights from Experiment and where next for precision	Sinead Farrington
	Drawing Room	08:30 - 09:00
	Alexander Penin - Higgs boson production at the next-to-next-to-leading power	Alexander Penin
	Drawing Room	09:00 - 09:30
	Gudrun Heinrich - Two Higgs bosons, two loops, x+2 operators	Gudrun Heinrich
	Drawing Room	09:30 - 10:00
10:00	Bernhard Mistlberger - Approximations for LHC Cross Sections using Collinear Expansions	Bernhard Mistlberger
	Drawing Room	10:00 - 10:30
	Tea/Coffee Break	
	Ballroom	10:30 - 11:00
11:00	Stefano Forte - Can we trust machine learning? PDFs as a case study	Stefano Forte
	Drawing Room	11:00 - 11:30
	Kirill Melnikov - Power corrections to collider processes	Kirill Melnikov
	Drawing Room	11:30 - 12:00
12:00	Stefan Weinzierl - Feynman integrals, geometries and differential equations	Stefan Weinzierl
	Drawing Room	12:00 - 12:30
	Lunch at 12:30	
	Meikle Restaurant	

MONDAY Afternoon

14:00	Julia Karlen - Locally finite two-loop amplitudes for multiple Higgs boson production in gluon fusion <i>Julia Karlen</i>	Xing Wang - ϵ-form for one-parameter elliptic Feynman integrals: non-planar triangle cross ladder at two loops <i>Xing Wang</i>
	Federico Buccioni - Signal-background interference effects in Higgs-mediated diphoton production beyond NLO <i>Federico Buccioni</i>	Michael Borinsky - Feynman amplitudes and the moduli space of graphs <i>Michael Borinsky</i>
15:00	A.H. Ajjath - di-Higgs at N3LO+N3LL <i>Ajjath Abdul Hameed</i> <i>Drawing Room</i> 15:00 - 15:30	Oliver Schnetz - Loop calculations with graphical functions <i>Oliver Schnetz</i>
	Tea/Coffee Break <i>Ballroom</i> 15:30 - 16:00	
16:00	Christian Brønnum-Hansen - Non-factorisable contributions to t-channel single top and VBF Higgs production <i>Christian Brønnum-Hansen</i>	Federico Gasparotto - Lattice Correlation functions from differential equations <i>Federico Gasparotto</i>
	Bakul Agarwal - Next-to-Leading-Order QCD corrections to ZZ production through gluon fusion <i>Bakul Agarwal</i>	David Broadhurst - 3-loop tadpoles with substructure from 12 elliptic curves <i>David Broadhurst</i>
17:00	Luca Buonocore - Associated production of a W boson and massive bottom quarks in NNLO QCD <i>Luca Buonocore</i>	Henrik Jessen Munch - Tropical Feynman Integration in the Physical Region <i>Henrik Jessen Munch</i>
	Tea/Coffee Break <i>Ballroom</i> 17:30 - 18:00	
18:00	Melih Arslan Ozelik - Two-loop master integrals and form-factors for pseudo-scalar quarkonia <i>Melih Arslan Ozelik</i>	Hjalte Frellesvig - Relative Cohomology and Feynman Integrals <i>Hjalte Frellesvig</i>
	Narayan Rana - Mixed QCD-EW two-loop amplitudes for charged current Drell-Yan production <i>Narayan Rana</i>	Xiao Liu - New tools towards fast evaluation of Feynman integrals <i>Xiao Liu</i>
19:00	Chiara Savoini - ttH production in NNLO QCD <i>Chiara Savoini</i> <i>Drawing Room</i> 19:00 - 19:30	Pavel Novichkov - Minimally divergent integral bases and special relations <i>Pavel Novichkov</i>
	Dinner at 19:30 <i>Meikle Restaurant</i>	

Tuesday Morning

08:00	Breakfast	
	<i>Meikle Restaurant</i>	07:30 - 08:15
09:00	Alexandre Salas-Bernárdez - Flow-oriented Perturbation Theory	<i>Alexandre Salas-Bernárdez</i>
	Andreas van Hameren - Hybrid $\overline{\text{KT}}$-factorization at NLO	<i>Andreas van Hameren</i>
09:00	Zeno Capatti - Exposing the threshold structure of loop integrals	<i>Zeno Capatti</i>
	Arnd Behring - A first look at the two-mass QCD contributions to the four-loop ρ parameter	<i>Arnd Behring</i>
10:00	Ben Page - Evanescent Integrals from Local Subtraction	<i>Ben Page</i>
	Nikolaos Syrrakos - 3-loop master integrals for H+jet production at N³LO: Towards the non-planar topologies	<i>Nikolaos Syrrakos</i>
10:00	Dmitry Chicherin - Pentagon Functions for One-Mass Scattering	<i>Dmitry Chicherin</i>
	Kay Schönwald - Singlet and anomaly contributions to massive QCD form factors	<i>Kay Schönwald</i>
11:00	Tea/Coffee Break	
	<i>Ballroom</i>	10:30 - 11:00
11:00	Giulio Gambuti - Five point amplitudes in full colour QCD	<i>Giulio Gambuti</i>
	Johannes Bluemlein - Recent 3-Loop Heavy Flavor Corrections to Deep-Inelastic Scattering	<i>Johannes Bluemlein</i>
12:00	Rene Poncelet - NNLO QCD corrections to event-shapes at the LHC	<i>Rene Poncelet</i>
	Sven-Olaf Moch - QCD splitting functions at four loops	<i>Sven-Olaf Moch</i>
12:00	Simone Zoia - Two-loop five-particle scattering amplitudes	<i>Simone Zoia</i>
	Zhewei Yin - Coupling versus kinematics in a general spontaneously broken gauge theory	<i>Zhewei Yin</i>
13:00	Lunch at 12:30	
	<i>Meikle Restaurant</i>	

Tuesday Afternoon

14:00	Mathieu Giroux - Looping the loops: a tale of elliptic dual Feynman integrals <i>Mathieu Giroux</i>	Ze Long Liu - Infrared singularities of QCD amplitudes with a massive parton <i>Zelong Liu</i>
	Yu Jiao Zhu - Elliptic Moduli of Bhabha Scattering <i>Yu Jiao Zhu</i>	Leonardo Vernazza - Factorization and resummation at next-to-leading power <i>Leonardo Vernazza</i>
15:00	Kai Yan - Multi-point energy correlations in N=4 Super Yang-Mills Theory <i>Kai Yan</i>	Matteo Becchetti - Two-loop Feynman integrals for top-quark pair plus jet production <i>Matteo Becchetti</i>
	Tea/Coffee Break <i>Ballroom</i> 15:30 - 16:00	
16:00	Daniel Stremmer - ttjj - NLO QCD corrections to top quark pair production and decays at the LHC <i>Daniel Stremmer</i>	Gherardo Vita - Precision Standard Model Phenomenology at N3LO and Beyond <i>Gherardo Vita</i>
	Giovanni Pelliccioli - Electroweak and QCD corrections to off-shell single-top production in association with a Z boson at the LHC <i>Giovanni Pelliccioli</i>	Ratan Sarkar - Exploring the method of expansion by regions <i>Ratan Sarkar</i>
17:00	Paolo Torrielli - A new observable for W-mass determination <i>Paolo Torrielli</i>	Yao Ma - A graph-theoretical approach to the method of regions <i>Yao Ma</i>
	Tea/Coffee Break <i>Ballroom</i> 17:30 - 18:00	
18:00	Giuseppe Bevilacqua - Modelling uncertainties and prompt b-jet identification in ttbb with dilepton signatures at the LHC <i>Giuseppe Bevilacqua</i>	Federica Devoto - Mixed QCD-electroweak corrections to dilepton production at the LHC in the high invariant mass region <i>Federica Devoto</i>
	Rhorry Gauld - The flavour of jets <i>Rhorry Gauld</i> <i>Drawing Room</i> 18:30 - 19:00	Tongzhi Yang - Renormalization of twist-two operators in covariant gauge to three loops in QCD <i>Tongzhi Yang</i>
19:00	Manuel Egner - Semileptonic and nonleptonic b-decays at NNLO <i>Manuel Egner</i>	Andrea Pelloni - Four-loop large-nf contributions to the non-singlet structure functions <i>Andrea Pelloni</i>
20:00	Dinner at 19:30 <i>Meikle Restaurant</i>	

Wednesday

08:00	Breakfast	
	<i>Meikle Restaurant</i>	07:30 - 08:15
09:00	Lorenzo Magnea - The architecture of infrared subtraction beyond NLO	<i>Lorenzo Magnea</i>
	<i>Drawing Room</i>	08:30 - 09:00
09:00	Sebastian Mizera - Landau Singularities Revisited	<i>Sebastian Mizera</i>
	<i>Drawing Room</i>	09:00 - 09:30
10:00	Thomas Gehrmann - Precision QCD calculations for vector boson observables	<i>Thomas Gehrmann</i>
	<i>Drawing Room</i>	09:30 - 10:00
10:00	HuaXing Zhu - Power corrections to energy flow distribution meets conformal bootstrap	<i>HuaXing Zhu</i>
	<i>Drawing Room</i>	10:00 - 10:30
11:00	Tea/Coffee Break	
	<i>Ballroom</i>	10:30 - 11:00
11:00	Martin Beneke - Gradient flow renormalon subtraction and the hadronic tau decay series	<i>Martin Beneke</i>
	<i>Drawing Room</i>	11:00 - 11:30
12:00	Robert Szafron - Towards N3LL jet veto	<i>Robert Szafron</i>
	<i>Drawing Room</i>	11:30 - 12:00
12:00	Michał Czakon - Jet and Photon Physics at high perturbative orders in QCD	<i>Michal Czakon</i>
	<i>Drawing Room</i>	12:00 - 12:30
13:00	Lunch at 12:30	
	<i>Meikle Restaurant</i>	

14:00 Excursions depart

19:30 Pre-dinner Drinks (Ballroom)

20:00 Conference Dinner (Meikle Restaurant)

Thursday Morning

08:00	Breakfast	
	<i>Meikle Restaurant</i>	07:30 - 08:15
09:00	Andre Hoang - Calibration of the MC top quark mass parameter with variable parton shower cut-off <i>Andre Hoang</i>	Dhimiter Canko - Two-Loop Amplitude Reduction using HELAC <i>Dhimiter Canko</i>
	Ludovic Scyboz - Matching and parton-shower accuracy <i>Ludovic Scyboz</i>	Pia Bredt - A generic NLO SM framework for LHC and future collider processes <i>Pia Bredt</i>
	Peter Skands - NNLO Corrections in Sector Showers <i>Peter Skands</i>	Aparna Sankar - Next-to-soft resummation for colour-singlet processes at the LHC <i>Aparna Sankar</i>
10:00	Silvia Zanolì - Combining NNLO QCD and NLO EW corrections matched to parton showers for WZ production using MiNNLOPS <i>Silvia Zanolì</i>	Jonathan Gaunt - Two-loop splitting in double parton distributions <i>Jonathan Gaunt</i>
	Tea/Coffee Break	
11:00	<i>Ballroom</i>	
	10:30 - 11:00	
	Michael Fucilla - High-energy resummation in Higgs production at next-to-leading order	Chen-Yu Wang - Heaviside functions and the zero-jettiness soft function at N3LO QCD <i>Chen-Yu Wang</i>
12:00	Frank Petriello - New probes of the Standard Model Effective Field Theory <i>Frank Petriello</i>	Philipp Böer - $B_c \rightarrow \ell \nu_\ell$ Form Factors in the Double-Logarithmic Approximation <i>Philipp Böer</i>
	Leonardo Di Giustino - Elimination of QCD Renormalization Scale and Scheme Ambiguities <i>Leonardo Di Giustino</i>	Herschel Chawdhry - Quantum algorithms for the simulation of perturbative QCD processes <i>Herschel Chawdhry</i>
	Lunch at 12:30	
	<i>Meikle Restaurant</i>	

Thursday Afternoon

14:00	Vitalii Maheria - Evaluating scattering amplitudes with pySecDec <i>Vitalii Maheria</i>	Calum Milloy - Regge poles and Regge cuts in multi-leg QCD amplitudes <i>Calum Milloy</i>
	Gloria Bertolotti - Subtracting NNLO singularities with a fully general analytic algorithm in massless QCD <i>Gloria Bertolotti</i>	Jeppe Andersen - Next-to-leading high energy logarithmic corrections and their impact on ratios of jet multiplicities <i>Jeppe Andersen</i>
15:00	Matteo Marcoli - N3LO Antenna Functions for Final-State Radiation <i>Matteo Marcoli</i>	Andreas Maier - High-energy resummation for Higgs boson plus jets production <i>Andreas Maier</i>
	Tea/Coffee Break <i>Ballroom</i> 15:30 - 16:00	
16:00	Chiara Signorile-Signorile - Advances in the nested soft-collinear subtraction scheme <i>Chiara Signorile-Signorile</i>	Francesco Giovanni Celiberto - NLL/NLO studies on Higgs-plus-jet production with POWHEG+JETHAD
	Marco Rocco - Muon-electron scattering at NNLO with McMule <i>Marco Rocco</i>	Sebastian Jaskiewicz - High-Energy and Soft-Collinear Resummation for Jet Production at the LHC <i>Sebastian Jaskiewicz</i> 16:30 - 17:00
17:00	Yannick Ulrich - QED at NNLO and beyond for precision experiments <i>Yannick Ulrich</i>	Melissa van Beekveld - Threshold resummation for the production of four top quarks <i>Melissa van Beekveld</i>
	Tea/Coffee Break <i>Ballroom</i> 17:30 - 18:00	
18:00	Oscar Braun-White - A general algorithm to build real-radiation antenna functions for higher-order calculations <i>Oscar Braun-White</i>	Andrzej Czarnecki - Radiative corrections to mechanical properties of bound states <i>Andrzej Czarnecki</i>
	Boris Kopeliovich - Abundant radiation of soft photons: a puzzle lasting 40 years <i>Boris Kopeliovich</i>	Fernando Febres Cordero - Numerical Unitarity for Binary Dynamics <i>Fernando Febres Cordero</i>
19:00	Bennie Ward - New Results from IR-Improved Amplitude-Based Resummation in Quantum Field Theory <i>Bennie Ward</i>	Michael Ruf - Classical scattering at high orders in perturbation theory <i>Michael Ruf</i>
	Dinner at 19:30 <i>Meikle Restaurant</i>	

Friday

08:00	Breakfast	
	<i>Meikle Restaurant</i>	07:30 - 08:15
09:00	Johannes Henn - Four-dimensional integration methods for Feynman integrals	<i>Johannes Henn</i>
	<i>Drawing Room</i>	08:30 - 09:00
	Peter Marquard - Three-loop massive form factors	<i>Peter Marquard</i>
10:00	<i>Drawing Room</i>	09:00 - 09:30
	Matthias Steinhauser - Analytic approximations of 2ℓ to 2γ processes with massive internal particles	<i>Matthias Steinhauser</i>
	<i>Drawing Room</i>	09:30 - 10:00
11:00	Ekta Chaubey - Two-loop QCD and QED corrections to light-by-light scattering	<i>Ekta Chaubey</i>
	<i>Drawing Room</i>	10:00 - 10:30
	Tea/Coffee Break	
12:00	<i>Ballroom</i>	10:30 - 11:00
	David Kosower - Universal Decomposition of Phase-Space Integrands	<i>David A Kosower</i>
	<i>Drawing Room</i>	11:00 - 11:30
12:00	Silvia Ferrario Ravasio - Pushing the accuracy of parton showers for hadron colliders	<i>Silvia Ferrario Ravasio</i>
	<i>Drawing Room</i>	11:30 - 12:00
	Keith Ellis - Resummation Studies for LHC	<i>Keith Ellis</i>
	<i>Drawing Room</i>	12:00 - 12:30
	Lunch at 12:30	
	<i>Meikle Restaurant</i>	

14:00 First coach to Edinburgh airport departs

14:15 Second coach departs

Notes for Conference Participants

RADCOR Website

Please refer to the conference Indico pages for information about the conference, including the programme, excursions, return travel to Edinburgh:

<https://indico.ph.ed.ac.uk/event/118/> or use the QR code on the front page.

Queries

If you have any queries please contact sopa.events@ed.ac.uk or talk to one of the local organisers.

Wednesday afternoon excursions

All excursions will depart from hotel main door. Please be ready to leave at 1400.

Conference Dinner on Wednesday

Pre-dinner drinks will be held in the Ballroom from 7.30pm and dinner will be served in the Meikle Restaurant at 8pm.

Check-out

The deadline for check-out is 11:00 and the hotel has luggage storage available from 07:00–14:00.

Coaches to Edinburgh

The coach departure times to Edinburgh Airport are as follows. Please make sure you are ready to depart at these times:

Friday 2 June: 14:00 and 14:15 (some delegates are trying to catch a flight soon after arrival at the airport, so if your flight is later please consider taking the 14:15 coach).

Saturday 3 June: 08:00

On return all coaches will stop at Edinburgh Airport only. If you wish to continue to the city centre, please use the tram or bus service from the airport.

FIND YOUR WAY AROUND

