

# Gauge Fields in Arithmetic, Topology & Physics

Monday 06 – Friday 10 March 2023

*The programme is subject to change. All times are Greenwich Mean Time (GMT).*

MONDAY 6 MARCH 2023	
09.00 - 10.00	Registration and Refreshments
10.00 - 10.10	Welcome and Housekeeping
10.10 - 10.50	<b>Nadav Gropper</b> , Ben-Gurion University of the Negev <i>Surfaces and <math>p</math>-adic fields</i>
11.10 - 12.00	<b>Rajath Radhakrishnan</b> , International Centre for Theoretical Physics <i>Integral Combinations of Characters from 2D TQFTs</i>  <b>Tynan Ochse</b> , University of Texas at Austin <i>Towards arithmetic Floer cohomology</i>
12.00 - 14.00	Lunch
14.00 - 14.50	<b>Jonathan Pridham</b> , University of Edinburgh <i>Derived analytic moduli of Galois representations with shifted symplectic structures</i>
14.50 - 15.10	Refreshments
15.10 - 16.00	<b>Sergei Gukov</b> , DIAS / Caltech <i>3d Modularity Conjecture</i>
16.00 - 17.30	Welcome Reception, hosted at ICMS

TUESDAY 7 MARCH 2023	
09.00 - 09.50	<b>Oren Ben-Bassat</b> , University of Haifa <i>Banach Algebraic Geometry</i>
09.50 - 10.10	Refreshments
10.10 - 10.50	<b>Jack Kelly</b> , Trinity College Dublin <i>Bornological Spectra and Bounded Cohomology</i>  <b>Ryoto Tange</b> , Waseda University <i>L-invariants for representations of knot groups</i>
11.10 - 12.00	<b>Toshiki Matsusaka</b> , Kyushu University <i>Hikami's observations on unified WRT invariants and false theta functions</i>
12.00 - 14.00	Lunch
14.00 - 14.50	<b>Hiroaki Karuo</b> , Gakushuin University <i>The reduced Dijkgraaf--Witten invariant of knots in the Bloch group of a finite field</i>
14.50 - 15.10	Refreshments
15.10 - 16.00	<b>Fernando Rodriguez Villegas</b> , ICTP <i>Character varieties for unitary groups</i>

WEDNESDAY 8 MARCH 2023	
09.00 - 09.50	<b>Jeehoon Park</b> , QSMS / Seoul National University <i>The Cassels-Tate pairings and the arithmetic BF theory for Selmer groups</i>
09.50 - 10.10	Refreshments
10.10 - 10.50	<b>Jun Ueki</b> , Ochanomizu University <i>p-adic torsion growth in p-adic towers</i>  <b>Jay Swar</b> , University of Oxford <i>Symplectic structures on Selmer schemes</i>
11.10 - 12.00	<b>Tony Pantev</b> , University of Pennsylvania <i>Enhanced moduli of D-branes and superpotentials</i>
12.00 - 14.00	Lunch

THURSDAY 9 MARCH 2023	
09.00 - 09.50	<b>Amina Abdurrahman</b> , IHES <i>Square roots of symplectic L-functions and Reidemeister torsion</i>
09.50 - 10.10	Refreshments
10.10 - 10.50	<b>Akihito Mori</b> , Tohoku University <i>Relations between Reshetikhin--Turaev and re-normalized link invariants</i>  <b>Wataru Kai</b> , Tohoku University / University of Milan <i>The Green-Tao theorem for number fields (and beyond)</i>
11.10 - 12.00	<b>Masanori Morishita</b> , Kyushu University <i>Symbols on 3-manifolds and conformal field theory</i>
12.00 - 14.00	Lunch
14.00 - 14.50	<b>Magnus Carlson</b> , Stockholm University <i>Massey products in étale cohomology</i>
14.50 - 15.10	Refreshments
15.10 - 16.00	<b>Yuya Murakami</b> , Tohoku University <i>A proof of a conjecture by Gukov-Pei-Putrov-Vafa</i>
19.00	Workshop Dinner, hosted at Blonde Restaurant  <i>75 St. Leonard's Street, Edinburgh EH8 7QR</i>

FRIDAY 10 MARCH 2023	
09.00 - 09.50	<b>Christopher Deninger</b> , University of Münster <i>Dynamical systems for arithmetic schemes</i>
09.50 - 10.10	Refreshments
10.10 - 10.50	<b>Yifei Zhao</b> , University of Münster <i>Langlands parametrization for covering groups</i>
11.00	End of Workshop