

Session Program

21-25 Aug 2017



ACAT 2017

Track 3: Computations in Theoretical Physics: Techniques and Methods

University of Washington, Seattle, Alder Hall

Monday 21 August

14:00

Track 3: Computations in Theoretical Physics: Techniques and Methods: Parallel Session

Session | **Location:** Alder Hall, 106 | **Convener:** Stephen Jones

14:00–14:20 **The R^* operation and combinatorial challenges at five loops**

Speaker

Ben Ruijl

14:25–14:45

High-precision calculation of the 4-loop contribution to the electron $g-2$ in QED

Speaker

Dr Stefano Laporta

14:50–15:10 **NNLO ntuples**

Speaker

Dr Daniel Maitre

15:15–15:35 **N-jettiness subtraction**

Speaker

Xiaohui Liu

16:00

16:30

Track 3: Computations in Theoretical Physics: Techniques and Methods

Session | **Location:** Alder Hall, 106 | **Convener:** Thomas Hahn

16:30–16:50

QQLink: an implementation of Quantized State System (QSS) methods in Geant4

Speaker

Dr Soon Yung Jun

16:55–17:15

Modeling of modifications induced by jets in the relativistic bulk nuclear matter

Speaker

Marcin Slodkowski

17:20–17:40 **NNPDF: Neural Networks for precision PDF determinations**

Speaker

Stefano Carrazza

17:45–18:05 **Transfer Learning in Astronomy: A New Machine Learning Paradigm**

Speaker

Ricardo Vilalta

18:30

Tuesday 22 August

14:00

Track 3: Computations in Theoretical Physics: Techniques and Methods: Parallel Session

Session | Location: Alder Hall, 106 | Convener: Daniel Maitre

14:00-14:20

Four-point function in general kinematics through geometrical splitting and reduction

Speaker

Andrei Davydychev

14:25-14:45

Loopedia, a Database for Loop Integrals

Speaker

Thomas Hahn

14:50-15:10

Calculation of One Loop Integrals with Package-X and CollierLink

Speaker

Dr Hiren Patel

16:00

16:45

Track 3: Computations in Theoretical Physics: Techniques and Methods: Parallel Session

Session | Location: Alder Hall, 106 | Convener: Fukuko YUASA

16:45-17:05

Direct numerical computation and its application to the higher-order radiative corrections

Speaker

Kiyoshi Kato

17:10-17:30

High-speed evaluation of loop integrals using lattice rules

Speaker

Elise de Doncker

17:35-17:55

Numerical Methods and the 4-point 2-loop Higgs amplitudes

Speaker

Stephen Jones

18:00-18:20

Numerical techniques for 2- and 3-loop integrals

Speaker

Ayres Freitas

18:45

Thursday 24 August

14:00

Track 3: Computations in Theoretical Physics: Techniques and Methods: Round table discussion

Session | **Location:** Alder Hall, 106 | **Convener:** Ayres Freitas

14:00–15:30

Round table discussion: Analytical vs. numerical methods for NNLO+ computations for LHC

Speakers

Kiyoshi Kato, Stephen Jones, Takahiro Ueda, Walter Giele

16:00

16:45

Track 3: Computations in Theoretical Physics: Techniques and Methods: Parallel Session

Session | **Location:** Alder Hall, 106 | **Convener:** Elise de Doncker

16:45–17:05

Go-HEP: writing concurrent software with ease and Go

Speaker

Sebastien Binet

17:10–17:30

A development of an accelerator board dedicated for multi-precision arithmetic operations and its application to Feynman loop integrals II

Speaker

Dr Hiroshi DAISAKA

17:35–17:55

A Java library to perform S-expansions of Lie algebras

Speaker

Dr Carlos Inostroza

18:00–18:20

Algorithm to find S-related Lie algebras

Speaker

Dr Carlos Inostroza

18:45