

**BNL-HET & RBRC Joint
Workshop "DWQ@25": The
event marks the passage of
twenty-five years since the
first numerical simulations
with Domain Wall Quarks
(DWQ)**

Report of Contributions

Contribution ID: 1

Type: **not specified**

Interplay of Lattice Fermion & Pauli-Villars Fields

Monday, December 13, 2021 8:00 AM (30 minutes)

Presenter: SHAMIR, Yigal (Tel Aviv University)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 2

Type: **not specified**

Domain-wall Fermion & Atiyah-Patodi-Singer Index

Monday, December 13, 2021 8:30 AM (30 minutes)

Presenter: FUKAYA, Hidenori (Osaka University)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 3

Type: **not specified**

Application of Tensor Renormalization Group to Quantum Field Theories

Monday, December 13, 2021 9:00 AM (30 minutes)

Presenter: KURAMASHI, Yoshinobu (Tsukuba)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 4

Type: **not specified**

Gauge covariant neural network and full QCD simulation

Monday, December 13, 2021 9:30 AM (30 minutes)

Presenter: TOMIYA, Akio (Osaka University)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 5

Type: **not specified**

Search for an Effective Change of Variable in QCD Simulations

Monday, December 13, 2021 10:30 AM (30 minutes)

Presenter: MATSUMOTO, Nobuyuki (RIKEN)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 6

Type: **not specified**

The Chiral Anomaly & the Gradient Flow

Monday, December 13, 2021 11:00 AM (30 minutes)

Presenter: LUESCHER, Martin (CERN)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 7

Type: **not specified**

The Small (gradient-)flow-time Expansion of the Effective Electro-weak Hamiltonian

Monday, December 13, 2021 11:30 AM (30 minutes)

Presenter: HARLANDER, Robert (Aachen)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 8

Type: **not specified**

Recent Master-field Studies

Monday, December 13, 2021 12:00 PM (30 minutes)

Presenter: BRUNO, Mattia

Session Classification: Theory/Computational/Algorithms

Contribution ID: 9

Type: **not specified**

Renormalization Group and Gradient Flow: Non-perturbative determination of the beta function and anomalous dimensions

Monday, December 13, 2021 2:00 PM (30 minutes)

Presenter: HASENFRATZ, Anna (University of Colorado Boulder)

Session Classification: Theory/Computational/Algorithms

Contribution ID: **10**

Type: **not specified**

Large domain DDHMC for Domain Wall Fermions

Monday, December 13, 2021 2:30 PM (30 minutes)

Presenter: BOYLE, Peter (BNL)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 11

Type: **not specified**

Index Theorems, Generalized Hall Currents, & Topology for Domain Wall Fermions

Monday, December 13, 2021 3:00 PM (30 minutes)

Presenter: KAPLAN, David (University of Washington)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 12

Type: **not specified**

Study of Riemann Manifold HMC for Lattice QCD

Monday, December 13, 2021 3:30 PM (30 minutes)

Presenter: JUNG, Chulwoo (Brookhaven National Laboratory)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 13

Type: **not specified**

Accelerated Sampling Techniques in Lattice QCD

Monday, December 13, 2021 4:00 PM (20 minutes)

Presenter: FOREMAN, Sam (ANL)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 14

Type: **not specified**

A Variance Reduction Technique for Hadronic Correlators with Partially Twisted Boundary Conditions

Monday, December 13, 2021 4:20 PM (20 minutes)

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Presenter: BARONE, Alessandro (USouthampton)

Session Classification: Theory/Computational/Algorithms

Contribution ID: 16

Type: **not specified**

Hadronic Vacuum Polarization from the BMW Collaboration

Tuesday, December 14, 2021 8:00 AM (30 minutes)

Presenter: SZABO, Kalman (Forschungszentrum Juelich)

Session Classification: g-2

Contribution ID: 17

Type: **not specified**

Staggering Towards the Continuum: Is the Lattice Spacing Small Enough for $a(\mu)$ hVP?

Tuesday, December 14, 2021 8:30 AM (30 minutes)

Presenter: PERIS, Santi (IFAE)

Session Classification: g-2

Contribution ID: 18

Type: **not specified**

The Status & Near-term Prospects of Fermilab E989, the Muon g-2 Collaboration

Tuesday, December 14, 2021 9:00 AM (30 minutes)

Presenter: NGUYEN, Hogan (Fermilab)

Session Classification: g-2

Contribution ID: 19

Type: **not specified**

The Hadronic Vacuum Polarisation Contribution to the Muon ($g-2$) from Lattice QCD with $O(a)$ Improved Wilson Fermions

Tuesday, December 14, 2021 9:30 AM (30 minutes)

Presenter: MEYER, Harvey (UMainz)

Session Classification: g-2

Contribution ID: 20

Type: **not specified**

Leading Hadronic Contribution to the Muon $g-2$ with Twisted-mass Quarks

Tuesday, December 14, 2021 10:30 AM (30 minutes)

Presenter: GIUSTI, Davide (University of Regensburg)

Session Classification: $g-2$

Contribution ID: 21

Type: **not specified**

The Status & Near-Term Prospects for New Results on the HVP Contribution to the Muon $g-2$ from the Fermilab Lattice, HPQCD & MILC Collaborations

Tuesday, December 14, 2021 11:00 AM (30 minutes)

Presenter: EL-KHADRA, Aida (University of Illinois)

Session Classification: g-2

Contribution ID: 22

Type: **not specified**

Multi-level integration in the presence of fermions: the case of the hadronic contribution to $(g - 2)_\mu$

Tuesday, December 14, 2021 11:30 AM (30 minutes)

Presenter: GIUSTI, Leonardo (INFN)

Session Classification: g-2

Contribution ID: 23

Type: **not specified**

Status & Near-term Prospects for New Results on the HVP contribution to the Muon $g-2$ from the RBC & UKQCD Collaborations

Tuesday, December 14, 2021 12:00 PM (30 minutes)

Presenter: LEHNER, Christoph (BNL)

Session Classification: g-2

Contribution ID: 24

Type: **not specified**

SM Prediction for VP & LBL for Muon (g-2)

Tuesday, December 14, 2021 12:30 PM (30 minutes)

Presenter: COLANGELO, Gilberto (ITP)

Session Classification: g-2

Contribution ID: 25

Type: **not specified**

Status & Outlook for RD(*) & RK(*) from Belle/Belle II

Wednesday, December 15, 2021 8:00 AM (30 minutes)

Presenter: IIJIMA, Toru (Nagoya University)

Session Classification: Flavor

Contribution ID: 26

Type: **not specified**

Status & Outlook for RD(*) & RK(*) from LHCb

Wednesday, December 15, 2021 8:30 AM (30 minutes)

Presenter: PATEL, Mitesh (Imperial College)

Session Classification: Flavor

Contribution ID: 27

Type: **not specified**

Opportunities & Problems with Inclusive Processes

Wednesday, December 15, 2021 9:00 AM (30 minutes)

Presenter: HASHIMOTO, Shoji (KEK)

Session Classification: Flavor

Contribution ID: 28

Type: **not specified**

Semileptonic Form Factors from Lattice QCD from JLQCD

Wednesday, December 15, 2021 9:30 AM (30 minutes)

Presenter: KANEKO, Takashi (KEK)

Session Classification: Flavor

Contribution ID: 29

Type: **not specified**

The B => D(*) Form-factors & the LUV R-ratios from Fermilab Lattice-MILC Collaboration

Wednesday, December 15, 2021 10:30 AM (30 minutes)

Presenter: VAQUERO, Alejandro (University of Utah)

Session Classification: Flavor

Contribution ID: 30

Type: **not specified**

Semileptonic for Factor for Bs => Ds (K) from RBC-UKQCD Collaborations

Wednesday, December 15, 2021 11:00 AM (30 minutes)

Presenter: FLYNN, Jonathan (University of Southampton)

Session Classification: Flavor

Contribution ID: 31

Type: **not specified**

Status & Outlook for B-mixings & the χ Parameter

Wednesday, December 15, 2021 11:30 AM (30 minutes)

Presenter: Dr TSANG, Justus Tobias (CP3-Origins, The University of Southern Denmark)

Session Classification: Flavor

Contribution ID: 32

Type: **not specified**

$D \rightarrow \pi$ Semileptonic Form Factors with Highly Improved Staggered Quarks

Wednesday, December 15, 2021 12:00 PM (30 minutes)

Presenter: JAY, William Isaac (MIT)

Session Classification: Flavor

Contribution ID: 33

Type: **not specified**

Anomolies and L_μ - L_τ

Wednesday, December 15, 2021 2:00 PM (30 minutes)

Presenter: HEECK, Julian (University of Virginia)

Session Classification: Flavor

Contribution ID: 34

Type: **not specified**

Possible BSM Interpretations of Flavor & g-2 Anomalies

Wednesday, December 15, 2021 2:30 PM (30 minutes)

Presenter: DEV, Bhupal (Washington University in St. Louis)

Session Classification: Flavor

Contribution ID: 35

Type: **not specified**

Semi-leptonic Form Factors & R-ratios for B to pi

Wednesday, December 15, 2021 3:00 PM (20 minutes)

Presenter: HILL, Ryan (University of Southampton)

Session Classification: Flavor

Contribution ID: 36

Type: **not specified**

Charged Meson Decays to l+ Neutrino + Photon -

Wednesday, December 15, 2021 3:20 PM (20 minutes)

Presenter: KANE, Christopher (University of Arizona)

Session Classification: Flavor

Contribution ID: 37

Type: **not specified**

Recent Results for Hadron Interactions in the HAL QCD Method

Thursday, December 16, 2021 8:00 AM (30 minutes)

Presenter: AOKI, Sinya (Yukawa Institute for Theoretical Physics, Kyoto University)

Session Classification: Nucleon, etc.

Contribution ID: **38**

Type: **not specified**

Finite Temperature Fine Lattice Simulation with DWQs

Thursday, December 16, 2021 8:30 AM (30 minutes)

Presenter: AOKI, Yasumichi (Nagoya University)

Session Classification: Nucleon, etc.

Contribution ID: 39

Type: **not specified**

Two-photon Exchange Contribution to the Muonic-hydrogen Lamb Shift from Lattice QCD

Thursday, December 16, 2021 9:00 AM (30 minutes)

Presenter: FENG, Xu (Columbia University)

Session Classification: Nucleon, etc.

Contribution ID: 40

Type: **not specified**

Lepton-nucleon Inelastic Scattering Cross Sections on the Lattice

Thursday, December 16, 2021 9:30 AM (20 minutes)

Presenter: YOO, Jun-Sik (KEK, Tsukuba)

Session Classification: Nucleon, etc.

Contribution ID: 41

Type: **not specified**

Neutrino Physics from LQCD with Domain Wall Fermions

Thursday, December 16, 2021 10:30 AM (30 minutes)

Presenter: MEYER, Aaron (UC Berkeley/LBNL)

Session Classification: Nucleon, etc.

Contribution ID: 42

Type: **not specified**

Non-perturbative studies of Hadronic Structure

Thursday, December 16, 2021 11:00 AM (30 minutes)

Presenter: ORGINOS, Kostas (College of William and Mary / JLab)

Session Classification: Nucleon, etc.

Contribution ID: 43

Type: **not specified**

Proton Mass Decomposition and Hadron Cosmological Constant

Thursday, December 16, 2021 11:30 AM (30 minutes)

Presenter: LIU, Keh-Fei (University of kentucky)

Session Classification: Nucleon, etc.

Contribution ID: 44

Type: **not specified**

Weak Hyperon Decays from Lattice QCD

Thursday, December 16, 2021 12:00 PM (20 minutes)

Presenter: HODGSON, Raoul (UEdinburgh)

Session Classification: Nucleon, etc.

Contribution ID: 45

Type: **not specified**

Electromagnetic & Isospin Breaking Corrections to Leptonic Decays

Thursday, December 16, 2021 12:20 PM (20 minutes)

Presenter: YONG, Andrew (AC)

Session Classification: Nucleon, etc.

Contribution ID: 47

Type: **not specified**

Progress with the Global Fit from RBC-UKQCD

Thursday, December 16, 2021 2:00 PM (30 minutes)

Presenter: JANG, Yong-Chull (Columbia University)

Session Classification: Nucleon, etc.

Contribution ID: 48

Type: **not specified**

Lattice Calculation of the Pion Mass Splitting Using the Infinite Volume Reconstruction Method

Thursday, December 16, 2021 2:30 PM (30 minutes)

Presenter: JIN, Luchang (University of Connecticut/RBRC)

Session Classification: Nucleon, etc.

Contribution ID: 49

Type: **not specified**

Neutrinoless Double Beta Decay from Lattice QCD

Thursday, December 16, 2021 3:30 PM (30 minutes)

Presenter: NICHOLSON, Amy (UNC)

Session Classification: Nucleon, etc.

Contribution ID: 50

Type: **not specified**

Nuclear double-beta decays from lattice QCD?

Thursday, December 16, 2021 4:00 PM (30 minutes)

Presenter: DAVOUDI, Zohreh (MIT)

Session Classification: Nucleon, etc.

Contribution ID: 51

Type: **not specified**

Proton Decay Matrix Elements

Thursday, December 16, 2021 4:30 PM (30 minutes)

Presenter: SYRITSYN, Sergey (RIKEN-BNL Research Center)

Session Classification: Nucleon, etc.

Contribution ID: 52

Type: **not specified**

News from the Lattice & the Unitarity Triangle

Friday, December 17, 2021 8:00 AM (30 minutes)

Presenter: MARTINELLI, Guido (INFN)

Session Classification: Kaon, etc.

Contribution ID: 53

Type: **not specified**

Decay amplitudes from rare $K \rightarrow \pi \ell^+ \ell^-$ decays

Friday, December 17, 2021 8:30 AM (30 minutes)

Presenter: ERBEN, Felix (UEdinburgh)

Session Classification: Kaon, etc.

Contribution ID: 54

Type: **not specified**

Direct CP Violation & the $\Delta I_{1/2}$ Rule in $K\pi\pi$ Decay in the Standard Model

Friday, December 17, 2021 9:00 AM (30 minutes)

Presenter: KELLY, Christopher (Brookhaven National Laboratory)

Session Classification: Kaon, etc.

Contribution ID: 55

Type: **not specified**

K -> pipi Decay Matrix Elements at the Physical Point with Periodic Boundary Conditions

Friday, December 17, 2021 9:30 AM (30 minutes)

Presenter: TOMII, Masaaki (UConn)

Session Classification: Kaon, etc.

Contribution ID: 56

Type: **not specified**

The E&M Corrections to $K \rightarrow \pi\pi$

Friday, December 17, 2021 11:00 AM (30 minutes)

Presenter: KARPIE, Joe (Columbia U)

Session Classification: Kaon, etc.

Contribution ID: 57

Type: **not specified**

Radiative corrections to neutron decay in effective field theory

Presenter: CIRIGLIANO, Vincenzo (Los Alamos National Laboratory)

Session Classification: Nucleon, etc.

Contribution ID: 58

Type: **not specified**

K π Scattering at Physical Pion Mass Using Distillation

Friday, December 17, 2021 2:00 PM (20 minutes)

Presenter: LACHINI, Nelson (UEdinburgh)

Session Classification: Kaon, etc.

Contribution ID: 59

Type: **not specified**

$\pi\pi$ Scattering Phases with Physical Pions

Friday, December 17, 2021 2:20 PM (20 minutes)

Presenter: WANG, Tianle (Columbia University)

Session Classification: Kaon, etc.

Contribution ID: **60**

Type: **not specified**

Lattice Calculation of DELTA MK

Friday, December 17, 2021 2:40 PM (20 minutes)

Presenter: WANG, Bigeng (Columbia University)

Session Classification: Kaon, etc.

Contribution ID: **61**

Type: **not specified**

KL Decays to Two Photons

Friday, December 17, 2021 3:00 PM (20 minutes)

Presenter: ZHAO, Yidi (Columbia University)

Session Classification: Kaon, etc.

Contribution ID: **62**

Type: **not specified**

The Pseudoscalar Spectrum & Theta = π

Friday, December 17, 2021 11:30 AM (30 minutes)

Presenter: CREUTZ, Michael (Physics Department, BNL)

Session Classification: Kaon, etc.

Contribution ID: **63**

Type: **not specified**

Closing Remarks

Friday, December 17, 2021 3:20 PM (10 minutes)

Session Classification: Kaon, etc.

Contribution ID: **64**

Type: **not specified**

Maiani-Testa approach and the inverse problem

Friday, December 17, 2021 10:30 AM (30 minutes)

Presenter: HANSEN, Maxwell (U. of Edinburgh)

Session Classification: Kaon, etc.

Contribution ID: 65

Type: **not specified**

Hadronic inputs for neutrino-less double beta decay

Thursday, December 16, 2021 3:00 PM (30 minutes)

Presenter: CIRIGLIANO, Vincenzo (Los Alamos National Laboratory)

Session Classification: Nucleon, etc.