

**WNPPC2020 - 57th Winter  
Nuclear Particle Physics  
Conference**

**Report of Contributions**

Contribution ID: 51

Type: **not specified**

## Conference Opening

*Thursday, 13 February 2020 19:00 (15 minutes)*

**Presenter:** JAMIESON, blair (University of Winnipeg)

**Session Classification:** Feb. 13 Evening Session

Contribution ID: 52

Type: **not specified**

# **Higgs boson physics and upgrade work with ATLAS at the Large Hadron Collider**

*Thursday, 13 February 2020 19:15 (30 minutes)*

**Presenter:** Dr DAVID, Claire (DESY)

**Session Classification:** Feb. 13 Evening Session

Contribution ID: 53

Type: **not specified**

## **Analysis of Higgs boson decays to two W bosons with the ATLAS experiment**

*Thursday, 13 February 2020 19:45 (15 minutes)*

**Presenter:** Mr JAEGER, Benjamin (Simon Fraser University)

**Session Classification:** Feb. 13 Evening Session

Contribution ID: 54

Type: **not specified**

## **Search for mono-Z signature dark matter with the ATLAS detector at the LHC**

*Thursday, 13 February 2020 20:00 (15 minutes)*

**Presenter:** TAYLOR, Samantha (University of Victoria)

**Session Classification:** Feb. 13 Evening Session

Contribution ID: 55

Type: **not specified**

## **Event Reconstruction using the Global Particle Flow Algorithm for the ATLAS Experiment**

*Thursday, 13 February 2020 20:15 (15 minutes)*

**Presenter:** MILLER, Laura (Carleton University)

**Session Classification:** Feb. 13 Evening Session

Contribution ID: 56

Type: **not specified**

## From Quarks to Neutrinos

*Friday, 14 February 2020 08:30 (30 minutes)*

**Presenter:** Ms ILIC, Nikolina (Institute of Particle Physics)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: 57

Type: **not specified**

## The SNO+ Scintillator Fill

*Friday, 14 February 2020 09:00 (15 minutes)*

**Presenter:** Mr TAM, Benjamin (Queen's University)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: 58

Type: **not specified**

## **Ba Daughter Tagging as a Method for Background Rejection Technique for nEXO**

*Friday, 14 February 2020 12:00 (15 minutes)*

**Presenter:** Dr CHAMBERS, Christopher (McGill University)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: 59

Type: **not specified**

## **A novel technique for ultracold neutron transmission measurements**

*Friday, 14 February 2020 09:45 (15 minutes)*

**Presenter:** Mr VANBERGEN, Sean (TRIUMF)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: **60**

Type: **not specified**

## **The NEWS-G light Dark Matter search experiment: Current status and preparation for SNOLAB**

*Friday, 14 February 2020 09:30 (15 minutes)*

**Presenter:** Mr DURNFORD, Daniel (University of Alberta)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: **61**

Type: **not specified**

## **Environmental Magnetic Fields for the Neutron Electric Dipole Moment Experiment at TRIUMF**

*Friday, 14 February 2020 10:30 (15 minutes)*

**Presenter:** Mrs LAVVAF, Maedeh (Presenter)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: 62

Type: **not specified**

## **Decreasing the measurement time of the neutron electric dipole moment experiment at TRIUMF**

*Friday, 14 February 2020 10:45 (15 minutes)*

**Presenter:** Mr SIDHU, Steve (SFU/TRIUMF)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: 63

Type: **not specified**

## **Simulation and Data Comparison of Ultracold Neutron Experiments for TUCAN Collaboration**

*Friday, 14 February 2020 11:00 (15 minutes)*

**Presenter:** Ms BELL, Beryl (TRIUMF, McGill University)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: 64

Type: **not specified**

## **Radon mitigation for the NEWS-G Dark Matter Detector**

*Friday, 14 February 2020 11:15 (15 minutes)*

**Presenter:** Mr O'BRIEN, Patrick (University of Alberta)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: 65

Type: **not specified**

## **Propagation of Muons at SNOLAB**

*Friday, 14 February 2020 11:30 (15 minutes)*

**Presenter:** Mr WOODLEY, William (University of Alberta)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: 66

Type: **not specified**

## **Search for dark matter and neutrinos with the Scintillating Bubble Chamber (SBC)**

*Friday, 14 February 2020 11:45 (15 minutes)*

**Presenter:** Dr PAL, SUMANTA (University of Alberta)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: 67

Type: **not specified**

## **MoEDAL-MAPP Detector Physics Performance Benchmarks**

*Friday, 14 February 2020 09:15 (15 minutes)*

**Presenter:** Mr STAELENS, Michael (University of Alberta)

**Session Classification:** Feb. 14 Morning Session

Contribution ID: **68**

Type: **not specified**

## **Multi-messenger astrophysics**

*Friday, 14 February 2020 19:00 (30 minutes)*

**Presenter:** Prof. SIEGEL, Daniel (Perimeter Institute for Theoretical Physics and the University of Guelph)

**Session Classification:** Feb. 14 Evening Session

Contribution ID: 69

Type: **not specified**

## **Development of multi-detector systems for gamma-ray coincidence measurements**

*Friday, 14 February 2020 19:30 (15 minutes)*

**Presenter:** GASCOINE, Melanie (SFU)

**Session Classification:** Feb. 14 Evening Session

Contribution ID: 70

Type: **not specified**

## **Ion transport simulations for the TITAN experiment**

*Friday, 14 February 2020 19:45 (15 minutes)*

**Presenter:** Mr JAVAJI, Abhilash (TRIUMF)

**Session Classification:** Feb. 14 Evening Session

Contribution ID: 71

Type: **not specified**

## **Investigation of resonance states in $^{11}\text{Li}$**

*Friday, 14 February 2020 20:00 (15 minutes)*

**Presenter:** Mr SINGH, Mukhwinder (student)

**Session Classification:** Feb. 14 Evening Session

Contribution ID: 72

Type: **not specified**

## **Correcting Signal Saturation in DEAP-3600**

*Friday, 14 February 2020 20:30 (15 minutes)*

**Presenter:** Mr MCLAUGHLIN, Joe (Royal Holloway University of London/TRIUMF)

**Session Classification:** Feb. 14 Evening Session

Contribution ID: 73

Type: **not specified**

## Testing exotic cosmology models with LISA

*Friday, 14 February 2020 20:45 (15 minutes)*

**Presenter:** Mrs CORMAN, Maxence (PI/UW)

**Session Classification:** Feb. 14 Evening Session

Contribution ID: 74

Type: **not specified**

## **Dark Matter Detection with SuperCDMS**

*Friday, 14 February 2020 21:00 (15 minutes)*

**Presenter:** Mr BEZERRA, Lucas (UBC)

**Session Classification:** Feb. 14 Evening Session

Contribution ID: 75

Type: **not specified**

## The search for CLFV at BELLE II

*Friday, 14 February 2020 21:15 (15 minutes)*

**Presenter:** Mr SHILLINGTON, Trevor (McGill University)

**Session Classification:** Feb. 14 Evening Session

Contribution ID: 76

Type: **not specified**

## **Dark Matter: Direct Detection Searches**

*Saturday, 15 February 2020 08:30 (30 minutes)*

**Presenter:** Prof. DIAMOND, Miriam (University of Toronto)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: 77

Type: **not specified**

## **Simulating a new complementary detector for DESCANT**

*Saturday, 15 February 2020 09:00 (15 minutes)*

**Presenter:** BIDAMAN, Harris (University of Guelph)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: 78

Type: **not specified**

## **Status of DEAP-3600 at SNOLAB**

*Saturday, 15 February 2020 09:15 (15 minutes)*

**Presenter:** Dr PAL, SUMANTA (University of Alberta)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: 79

Type: **not specified**

## **Explosion Energies, Ages and Densities of Galactic Supernovae**

*Saturday, 15 February 2020 09:30 (15 minutes)*

**Presenter:** Prof. LEAHY, Denis (University of Calgary)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: **80**

Type: **not specified**

## **Nonperturbative Extraction of the Effective Mass in Neutron Matter**

*Saturday, 15 February 2020 09:45 (15 minutes)*

**Presenter:** Mr ISMAIL, Nawar (University of Guelph)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: **81**

Type: **not specified**

## **Charged pi-Meson Studies at Jefferson Lab**

*Saturday, 15 February 2020 10:30 (15 minutes)*

**Presenter:** Mr USMAN, Ali (University of Regina)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: **82**

Type: **not specified**

## **Kaon Electromagenetic Form Factor**

*Saturday, 15 February 2020 10:45 (15 minutes)*

**Presenter:** Mr VIJAY KUMAR, Vijay (University of Regina)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: **83**

Type: **not specified**

## **Deep Exclusive $\pi^-$ Production with SoLID**

*Saturday, 15 February 2020 11:00 (15 minutes)*

**Presenter:** Dr KAY, Stephen (University of Regina)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: **84**

Type: **not specified**

## **PICO Bubble Chambers: Past, Present, and Future**

*Saturday, 15 February 2020 11:15 (15 minutes)*

**Presenter:** Mr MOORE, Colin (Queen's University)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: 85

Type: **not specified**

## **Precision Measurements on Antihydrogen using the ALPHA-g Apparatus**

*Saturday, 15 February 2020 11:30 (15 minutes)*

**Presenter:** Ms WOOSAREE, Pooja (University of Calgary)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: **86**

Type: **not specified**

## **A Cosmic Ray Veto System for the ALPHA- g Experiment**

*Saturday, 15 February 2020 11:45 (15 minutes)*

**Presenter:** Mr SMITH, Gareth (UBC/TRIUMF)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: 87

Type: **not specified**

## **Magnetometry for Gravitational Measure- ments of Antihydrogen with ALPHA-g**

*Saturday, 15 February 2020 12:00 (15 minutes)*

**Presenter:** Mr EVETTS, Nathan (UBC)

**Session Classification:** Feb. 15 Morning Session

Contribution ID: **88**

Type: **not specified**

## **Recent Studies of Astrophysical Reactions at ISAC**

*Saturday, 15 February 2020 19:00 (30 minutes)*

**Presenter:** Mr WILLIAMS, Matthew (TRIUMF)

**Session Classification:** Feb. 15 Evening Session

Contribution ID: **89**

Type: **not specified**

## **Primary electron drift time simulation in spherical proportional counter**

*Saturday, 15 February 2020 19:30 (15 minutes)*

**Presenter:** Ms DENG, Yuqi (University of Alberta)

**Session Classification:** Feb. 15 Evening Session

Contribution ID: **90**

Type: **not specified**

## **Decay of a bound muon to a bound electron**

*Saturday, 15 February 2020 19:45 (15 minutes)*

**Presenter:** Prof. ASLAM, Muhammad Jamil (University of Alberta)

**Session Classification:** Feb. 15 Evening Session

Contribution ID: 91

Type: **not specified**

## **Applied Quantum Annealing for Track Re- construction in HEP**

*Saturday, 15 February 2020 20:00 (15 minutes)*

**Presenter:** Mr REID, Parker (Simon Fraser University)

**Session Classification:** Feb. 15 Evening Session

Contribution ID: 92

Type: **not specified**

## **From odd-even staggering to the pairing gap in neutron matter**

*Saturday, 15 February 2020 20:30 (15 minutes)*

**Presenter:** Mr PALKANOGLU, Georgios (University of Guelph)

**Session Classification:** Feb. 15 Evening Session

Contribution ID: 93

Type: **not specified**

## **Nuclear Recoil Calibration at TUNL**

*Saturday, 15 February 2020 20:45 (15 minutes)*

**Presenter:** Mr DE BRIENNE, Francois (Université De Montréal)

**Session Classification:** Feb. 15 Evening Session

Contribution ID: 94

Type: **not specified**

## **Analysis of electron drift properties and fluctuations for NEWS-G**

*Saturday, 15 February 2020 21:00 (15 minutes)*

**Presenter:** Mr COQUILLAT, Jean-Marie (Queen's University)

**Session Classification:** Feb. 15 Evening Session

Contribution ID: 95

Type: **not specified**

## **Investigation of wavelength shifting materi- als in an active helium target**

*Saturday, 15 February 2020 21:15 (15 minutes)*

**Presenter:** Mr PERRY, Michael (Mount Allison University)

**Session Classification:** Feb. 15 Evening Session

Contribution ID: 96

Type: **not specified**

## **The Intermediate Water Cherenkov Detector for Hyper-Kamiokande**

*Sunday, 16 February 2020 08:30 (30 minutes)*

**Presenter:** Mr PAVIN, Matej (TRIUMF)

**Session Classification:** Feb. 16 Morning Session

Contribution ID: 97

Type: **not specified**

## **High-Precision Half-life Measurement of $^{14}\text{O}$**

*Sunday, 16 February 2020 09:00 (15 minutes)*

**Presenter:** Ms SHARMA, Shivani (University of Regina)

**Session Classification:** Feb. 16 Morning Session

Contribution ID: 98

Type: **not specified**

## **High-Precision Branching Ratio Measurement and Spin Assignment Implications for $^{62}\text{Ga}$ Superallowed Beta Decay**

*Sunday, 16 February 2020 09:15 (15 minutes)*

**Presenter:** Mr MACLEAN, Andrew (University of Guelph)

**Session Classification:** Feb. 16 Morning Session

Contribution ID: 99

Type: **not specified**

## **Dipositronium annihilation into a single photon**

*Sunday, 16 February 2020 09:30 (15 minutes)*

**Presenter:** Mr MUBASHER, Muhammad (University of Alberta)

**Session Classification:** Feb. 16 Morning Session

Contribution ID: **100**

Type: **not specified**

## **Single photon decay of the positronium ion**

*Sunday, 16 February 2020 09:45 (15 minutes)*

**Presenter:** Mr RAHMAN MIR, Md Samiur (University of Alberta)

**Session Classification:** Feb. 16 Morning Session

Contribution ID: **101**

Type: **not specified**

## **Student prizes / conference close**

*Sunday, 16 February 2020 10:30 (30 minutes)*

**Presenter:** JAMIESON, blair (University of Winnipeg)

**Session Classification:** Feb. 16 Morning Session