

**TRIUMF Science Week 2021**

**Report of Contributions**

Contribution ID: 2

Type: **not specified**

## Welcome from TRIUMF Director, Nigel Smith

*Monday, August 16, 2021 8:00 AM (20 minutes)*

**Presenter:** Dr SMITH, Nigel (TRIUMF)

**Session Classification:** Welcome Session

Contribution ID: 3

Type: **not specified**

## **ACE EDI: Awareness, Collaboration, and Engagement to advance Equity, Diversity, and Inclusion**

*Monday, August 16, 2021 8:20 AM (30 minutes)*

### **Summary**

**Presenter:** Dr THOMSON, Rowan (Carleton University)

**Session Classification:** Welcome Session

Contribution ID: 4

Type: **not specified**

## Discussion

*Monday, August 16, 2021 8:50 AM (10 minutes)*

**Presenter:** Dr KWIATKOWSKI, Anna (TRIUMF)

**Session Classification:** Welcome Session

Contribution ID: 5

Type: **not specified**

## Current Trends in Nuclear Structure

*Monday, August 16, 2021 9:15 AM (30 minutes)*

**Presenter:** Dr CRAWFORD, Heather (Lawrence Berkeley National Laboratory)

**Session Classification:** Nuclear Physics Session

Contribution ID: 6

Type: **not specified**

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

*Monday, August 16, 2021 9:45 AM (15 minutes)*

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

**Session Classification:** Nuclear Physics Session

Contribution ID: 7

Type: **not specified**

## Heavy Element Nucleosynthesis

*Monday, August 16, 2021 10:00 AM (15 minutes)*

**Presenter:** Dr VASSH, Nicole (TRIUMF)

**Session Classification:** Nuclear Physics Session

Contribution ID: 8

Type: **not specified**

## **Hidden energy scale in geometrically frustrated systems and implications for quantum magnets**

*Monday, August 16, 2021 10:30 AM (30 minutes)*

**Presenter:** Dr RAMIREZ, Art (UC Santa Cruz)

**Session Classification:** Quantum Materials Session

Contribution ID: 9

Type: **not specified**

## Quantum Critical Scaling in a metallic Kagome system

*Monday, August 16, 2021 11:00 AM (15 minutes)*

**Presenter:** Dr REIG-I-PLESSIS, Dalmau (UBC)

**Session Classification:** Quantum Materials Session

Contribution ID: **10**

Type: **not specified**

## **Enhanced superconductivity in plastically deformed strontium titanate**

*Monday, August 16, 2021 11:15 AM (15 minutes)*

**Presenter:** Dr HAMEED, Sajna (University of Minnesota)

**Session Classification:** Quantum Materials Session

Contribution ID: 11

Type: **not specified**

## **Expanding the radioisotope toolbox for nuclear medicine**

*Monday, August 16, 2021 12:30 PM (20 minutes)*

**Presenter:** Dr LAPI, Suzanne (University of Alabama)

**Session Classification:** Life Sciences Session

Contribution ID: 12

Type: **not specified**

## **The BELLA PW laser proton beamline: a new platform for ultra-high dose rate radiobiological research**

*Monday, August 16, 2021 12:50 PM (20 minutes)*

**Presenter:** Dr OBST-HUBL, Lieselotte (Lawrence Berkeley National Laboratory)

**Session Classification:** Life Sciences Session

Contribution ID: 13

Type: **not specified**

## **Biological and Medical Applications of bNMR Spectroscopy**

*Monday, August 16, 2021 1:10 PM (20 minutes)*

**Presenter:** Dr MCFADDEN, Ryan (TRIUMF)

**Session Classification:** Life Sciences Session

Contribution ID: 14

Type: **not specified**

## **FRIB Accelerator Science and Technology Challenges**

*Monday, August 16, 2021 1:45 PM (20 minutes)*

**Presenter:** Dr OSTROUMOV, Peter (FRIB)

**Session Classification:** Accelerator Science Session

Contribution ID: 15

Type: **not specified**

## **Target and Ion Sources Development at TRIUMF**

*Monday, August 16, 2021 2:05 PM (20 minutes)*

**Presenter:** Dr BABCOCK, Carla (TRIUMF)

**Session Classification:** Accelerator Science Session

Contribution ID: 16

Type: **not specified**

## **SRF and Beam Physics Research at UVic and TRIUMF**

*Monday, August 16, 2021 2:25 PM (20 minutes)*

**Presenter:** Dr JUNGINGER, Tobias (Triumf)

**Session Classification:** Accelerator Science Session

Contribution ID: 17

Type: **not specified**

## Scientific and Quantum Computing

*Tuesday, August 17, 2021 8:00 AM (30 minutes)*

### Summary

**Presenter:** Dr ELSEN, Eckhard (CERN / DESY)

**Session Classification:** Scientific Computing / Particle Physics Session

Contribution ID: **18**

Type: **not specified**

## **Hyper-K: Precision Neutrino Experiment Techniques**

*Tuesday, August 17, 2021 8:30 AM (15 minutes)*

**Presenter:** Dr DE PERIO, Patrick (TRIUMF)

**Session Classification:** Scientific Computing / Particle Physics Session

Contribution ID: 19

Type: **not specified**

## **Challenges and opportunities in Particle Physics**

*Tuesday, August 17, 2021 8:45 AM (30 minutes)*

**Presenter:** Dr SANZ, Veronica (University of Valencia / University of Sussex)

**Session Classification:** Scientific Computing / Particle Physics Session

Contribution ID: **20**

Type: **not specified**

## **ATLAS, DiHiggs, Higgs Self Coupling**

*Tuesday, August 17, 2021 9:30 AM (15 minutes)*

**Presenter:** Dr SWIATLOWSKI, Maximilian (TRIUMF)

**Session Classification:** Particle Physics Session

Contribution ID: 21

Type: **not specified**

## Laser Cooling of Antihydrogen Atoms

*Tuesday, August 17, 2021 9:45 AM (15 minutes)*

**Presenter:** Mr EVANS, Andrew (University of Calgary)

**Session Classification:** Particle Physics Session

Contribution ID: 22

Type: **not specified**

## Particle Physics Theory: Dark Neutrons

*Tuesday, August 17, 2021 10:00 AM (15 minutes)*

**Presenter:** Dr RAJ, Nirmal Raj Krishna (TRIUMF)

**Session Classification:** Particle Physics Session

Contribution ID: 23

Type: **not specified**

## **Realizing The Vision: Science Technology**

*Tuesday, August 17, 2021 10:30 AM (30 minutes)*

**Presenter:** Dr DEMARTEAU, Marcel (Argonne National Laboratory)

**Session Classification:** Science Technology Session

Contribution ID: 24

Type: **not specified**

## **ITK + Future Detector R&D**

*Tuesday, August 17, 2021 11:00 AM (15 minutes)*

**Presenter:** Dr POLEY, Luise (TRIUMF)

**Session Classification:** Science Technology Session

Contribution ID: 25

Type: **not specified**

## Results in Scientific Computing

**Presenter:** Dr FEDORKO, Wojciech (TRIUMF)

**Session Classification:** Science Technology Session

Contribution ID: 26

Type: **not specified**

## Particle Physics

*Wednesday, August 18, 2021 8:00 AM (20 minutes)*

**Presenter:** Dr MORRISSEY, David (TRIUMF)

**Session Classification:** 20-Year Vision - Subatomic Physics

Contribution ID: 27

Type: **not specified**

## Nuclear Physics

*Wednesday, August 18, 2021 8:20 AM (20 minutes)*

**Presenter:** Dr DILLMANN, Iris (TRIUMF)

**Session Classification:** 20-Year Vision - Subatomic Physics

Contribution ID: **28**

Type: **not specified**

## **Fundamental Physics with AMO Techniques**

*Wednesday, August 18, 2021 8:40 AM (20 minutes)*

**Presenter:** Dr CHARLES, Christopher (TRIUMF)

**Session Classification:** 20-Year Vision - Subatomic Physics

Contribution ID: 29

Type: **not specified**

## Poster Session

*Tuesday, August 17, 2021 12:30 PM (1 hour)*

**Session Classification:** Poster Session + Networking Event

Contribution ID: **30**

Type: **not specified**

## **Roadmap to career in research and academia**

*Tuesday, August 17, 2021 1:30 PM (1 hour)*

Moderated panel discussion

**Session Classification:** Poster Session + Networking Event

Contribution ID: **31**

Type: **not specified**

## **Future Directions in Scientific Computing**

*Wednesday, August 18, 2021 11:00 AM (30 minutes)*

### **Summary**

**Presenter:** Dr TAFIROUT, Reda (TRIUMF)

**Session Classification:** 20-Year Vision - Scientific Computing

Contribution ID: **32**

Type: **not specified**

## **Accelerator Science and Facilities**

*Wednesday, August 18, 2021 9:15 AM (30 minutes)*

### **Summary**

**Presenter:** Dr PLANCHE, Thomas (TRIUMF)

**Session Classification:** 20-Year Vision - Accelerators

Contribution ID: 33

Type: **not specified**

## Quantum Technologies

*Wednesday, August 18, 2021 10:30 AM (30 minutes)*

### Summary

**Presenter:** Dr HESSEY, Nigel (TRIUMF)

**Session Classification:** 20-Year Vision - Quantum Technologies

Contribution ID: 34

Type: **not specified**

## **TRIUMF Site Development**

*Wednesday, August 18, 2021 9:45 AM (30 minutes)*

### **Summary**

**Presenter:** Ms ABOUD, Anne Louise (TRIUMF)

**Session Classification:** 20-Year Vision - Site Development

Contribution ID: 35

Type: **not specified**

## Life Sciences Summary

*Thursday, August 19, 2021 11:15 AM (30 minutes)*

### Summary

**Presenter:** SCHAFFER, Paul (TRIUMF)

**Session Classification:** 20-Year Vision - Life Sciences

Contribution ID: 36

Type: **not specified**

## **Summary of topical group: Probes for quantum materials and bio-molecules in 20-year vision**

*Thursday, August 19, 2021 10:30 AM (10 minutes)*

### **Summary**

**Presenter:** Dr KOJIMA, Kenji (TRUIMF)

**Session Classification:** 20-Year Vision - Quantum Materials

Contribution ID: 37

Type: **not specified**

## **Summary of Workshop on Beam-based Probes of Condensed Matter Physics, Chemistry and Related Fields in Canada**

*Thursday, August 19, 2021 10:40 AM (10 minutes)*

### **Summary**

**Presenter:** Dr MCKENZIE, Iain (TRIUMF)

**Session Classification:** 20-Year Vision - Quantum Materials

Contribution ID: **38**

Type: **not specified**

## Discussion

*Thursday, August 19, 2021 10:50 AM (25 minutes)*

### Summary

**Session Classification:** 20-Year Vision - Quantum Materials

Contribution ID: 39

Type: **not specified**

## **TUG AGM - Intro and Welcome**

*Friday, August 20, 2021 10:30 AM (5 minutes)*

### **Summary**

**Presenter:** Dr GWINNER, Gerald (University of Manitoba)

**Session Classification:** TRIUMF Users Group Annual General Meeting

Contribution ID: 41

Type: **not specified**

## **TRIUMF Users Office: Current Status and Future Outlook, Results of User Survey**

*Friday, August 20, 2021 10:35 AM (30 minutes)*

### **Summary**

**Presenter:** Dr PAVAN, Marcello (TRIUMF)

**Session Classification:** TRIUMF Users Group Annual General Meeting

Contribution ID: 42

Type: **not specified**

## **GAPS presentation**

*Friday, August 20, 2021 11:05 AM (15 minutes)*

### **Summary**

**Presenter:** YATES, Daniel (TRIUMF)

**Session Classification:** TRIUMF Users Group Annual General Meeting

Contribution ID: 43

Type: **not specified**

## **Poster competition announcement**

*Friday, August 20, 2021 12:30 PM (10 minutes)*

### **Summary**

**Session Classification:** TRIUMF Users Group Annual General Meeting

Contribution ID: 44

Type: **not specified**

## **Q&A with management, further discussion**

*Friday, August 20, 2021 12:40 PM (45 minutes)*

### **Summary**

**Session Classification:** TRIUMF Users Group Annual General Meeting

Contribution ID: 45

Type: **not specified**

## concluding Remarks

*Friday, August 20, 2021 1:25 PM (5 minutes)*

### Summary

**Presenter:** Dr GWINNER, Gerald (University of Manitoba)

**Session Classification:** TRIUMF Users Group Annual General Meeting

Contribution ID: 46

Type: **not specified**

## Discussion

*Friday, August 20, 2021 11:20 AM (10 minutes)*

### Summary

**Session Classification:** TRIUMF Users Group Annual General Meeting

Contribution ID: 47

Type: **not specified**

## Particle Identification at NA62

*Tuesday, August 17, 2021 11:15 AM (3 minutes)*

### Summary

**Presenter:** VELGHE, Bob (TRIUMF)

**Session Classification:** Science Technology Session

Contribution ID: 48

Type: **not specified**

## **Pion classification and calibration at ATLAS**

*Tuesday, August 17, 2021 11:18 AM (3 minutes)*

### **Summary**

**Presenter:** PORTILLO QUINTERO, Dilia María (CERN)

**Session Classification:** Science Technology Session

Contribution ID: 49

Type: **not specified**

## AI beam tuning

*Tuesday, August 17, 2021 11:21 AM (3 minutes)*

### Summary

**Presenter:** WANG, David (TRIUMF)

**Session Classification:** Science Technology Session

Contribution ID: 50

Type: **not specified**

## **Calorimeter Simulation using quantum annealers**

*Tuesday, August 17, 2021 11:27 AM (3 minutes)*

### **Summary**

**Presenter:** DRECHSLER, Eric (SFU)

**Session Classification:** Science Technology Session

Contribution ID: 51

Type: **not specified**

# Quantum Computing for Nuclear Physics: Improving Hamiltonian Encodings with the Gray Code

*Tuesday, August 17, 2021 11:24 AM (3 minutes)*

## Summary

**Presenter:** GYSBERS, Peter (TRIUMF / UBC)

**Session Classification:** Science Technology Session