

**PAINT2023 - Workshop on
Progress in Ab Initio Nuclear
Theory**



Report of Contributions

Contribution ID: 1

Type: **not specified**

Welcome to TRIUMF

Tuesday, 28 February 2023 09:30 (30 minutes)

Presenter: NAVRATIL, Petr (TRIUMF)

Session Classification: Morning

Contribution ID: 2

Type: **not specified**

TBA

Contribution ID: 3

Type: **not specified**

Isospin-breaking in the IMSRG

Wednesday, 1 March 2023 10:00 (30 minutes)

Presenter: STROBERG, Ragnar (Notre Dome)

Session Classification: Morning

Contribution ID: 4

Type: **not specified**

Recent advances in coupled-cluster computations of nuclei

Thursday, 2 March 2023 09:30 (30 minutes)

Presenter: HAGEN, Gaute (Oak Ridge)

Session Classification: Afternoon

Contribution ID: 5

Type: **not specified**

New equation of state developments for neutron star matter and finite temperature

Friday, 3 March 2023 09:30 (30 minutes)

Presenter: SCHWENK, Achim (TU Darmstadt)

Session Classification: Morning

Contribution ID: 6

Type: **not specified**

Nuclear Forces with Symmetry Preserving Regulator

Tuesday, 28 February 2023 10:00 (30 minutes)

Co-author: KREBS, Hermann (Ruhr-Universitaet Bochum)

Presenters: NAVRATIL, Chair: Petr; KREBS, Hermann (Ruhr-Universitaet Bochum)

Session Classification: Morning

Contribution ID: 7

Type: **not specified**

Ab initio computation of ^{208}Pb and emergence of nuclear saturation

Tuesday, 28 February 2023 11:00 (30 minutes)

Presenter: FORSSÉN, Christian (Chalmers)

Session Classification: Morning

Contribution ID: 8

Type: **not specified**

Wave function matching for the quantum many-body problem.

Tuesday, 28 February 2023 11:30 (30 minutes)

Presenter: LEE, Dean (MSU)

Session Classification: Morning

Contribution ID: 9

Type: **not specified**

Perturbation theory in continuum quantum Monte Carlo

Tuesday, 28 February 2023 12:00 (30 minutes)

Presenter: GEZERLIS, Alex (Guelph)

Session Classification: Morning

Contribution ID: **10**

Type: **not specified**

Ab initio reactions: from continuum to bound states and back

Tuesday, 28 February 2023 14:00 (30 minutes)

Presenter: ATKINSON, Mack

Session Classification: Afternoon

Contribution ID: 11

Type: **not specified**

Extending the reach of the nuclear shell model

Tuesday, 28 February 2023 14:30 (30 minutes)

Presenter: JOHNSON, Calvin

Session Classification: Afternoon

Contribution ID: 12

Type: **not specified**

Correlated observables and dimensionless ratios

Tuesday, 28 February 2023 15:00 (30 minutes)

Presenter: CAPRIO, Mark

Session Classification: Afternoon

Contribution ID: 13

Type: **not specified**

Pair Production in p+7Li Radiative Capture

Tuesday, 28 February 2023 16:00 (30 minutes)

Presenter: GYSBERS, Peter

Session Classification: Afternoon

Contribution ID: 14

Type: **not specified**

Ab initio exploration 12Be

Tuesday, 28 February 2023 16:30 (30 minutes)

Presenter: MCCOY, Anna

Session Classification: Afternoon

Contribution ID: 15

Type: **not specified**

Two-body current effects in medium-mass nuclei

Presenter: MIYAGI, Takayuki

Session Classification: Morning

Contribution ID: 16

Type: **not specified**

A Status Update on IMSRG Methods in Nuclear Physics

Wednesday, 1 March 2023 11:00 (30 minutes)

Presenter: HERGERT, Heiko

Session Classification: Morning

Contribution ID: 17

Type: **not specified**

In-Medium No-Core Shell Model: Updates & Applications

Wednesday, 1 March 2023 11:30 (30 minutes)

Presenter: ROTH, Robert

Session Classification: Morning

Contribution ID: **18**

Type: **not specified**

Recent advances in self-consistent Green's function with Gorkov propagators

Wednesday, 1 March 2023 12:00 (30 minutes)

Presenter: BARBIERI, Carlo

Session Classification: Morning

Contribution ID: **19**

Type: **not specified**

Poster Jamboree

Contribution ID: 20

Type: **not specified**

Nuclear magnetic moments from chiral EFT

Friday, 3 March 2023 11:00 (30 minutes)

Presenter: GANDOLFI, Stefano

Session Classification: Morning

Contribution ID: 21

Type: **not specified**

How hard is it to compute an atomic nucleus?

Wednesday, 1 March 2023 09:30 (30 minutes)

Presenter: PAPENBROCK, Thomas

Session Classification: Morning

Contribution ID: 22

Type: **not specified**

Extension of the ab-initio Gorkov-Green's function approach to the Spectroscopy of even-even semi-magic Nuclei

Wednesday, 1 March 2023 16:00 (30 minutes)

Presenter: STELLIN, Gianluca

Session Classification: Afternoon

Contribution ID: 23

Type: **not specified**

Ab initio PGCM: new developments and results

Wednesday, 1 March 2023 16:30 (30 minutes)

Presenter: BALLY, Benjamin

Session Classification: Afternoon

Contribution ID: 24

Type: **not specified**

Towards reliable nuclear matrix elements for neutrinoless double beta decay

Thursday, 2 March 2023 10:00 (30 minutes)

Presenter: BELLEY, Antoine

Session Classification: Afternoon

Contribution ID: 25

Type: **not specified**

Ab initio studies on ordinary muon capture

Thursday, 2 March 2023 11:00 (30 minutes)

Presenter: JOKINIEMI, Lotta

Session Classification: Morning

Contribution ID: 26

Type: **not specified**

Nuclear Structure in beta decay searches for Beyond the standard model signals

Thursday, 2 March 2023 11:30 (30 minutes)

Presenter: GAZIT, Doron

Session Classification: Morning

Contribution ID: 27

Type: **not specified**

Allowed and forbidden β -decays in ongoing BSM precision searches

Thursday, 2 March 2023 12:00 (30 minutes)

Presenter: GLICK-MAGID, Ayala

Session Classification: Morning

Contribution ID: 28

Type: **not specified**

Ab initio prediction of astrophysical reaction rates and integrating microscopic calculations within few-body methods

Thursday, 2 March 2023 14:00 (1 hour)

Presenter: HEBBORN, Chloë

Session Classification: Colloquium

Contribution ID: 29

Type: **not specified**

Ab initio electroweak reactions with nuclei

Friday, 3 March 2023 10:00 (30 minutes)

Presenter: BACCA, Sonia

Session Classification: Morning

Contribution ID: 30

Type: **not specified**

Revisiting chiral low-momentum interactions for medium-mass nuclei

Friday, 3 March 2023 11:30 (30 minutes)

Presenter: ARTHUIS, Pierre

Session Classification: Morning

Contribution ID: 31

Type: **not specified**

Nambu-Covariant Green's Functions: application to superfluid nuclear matter

Friday, 3 March 2023 12:00 (30 minutes)

Presenter: DRISSI, Mehdi

Session Classification: Morning

Contribution ID: 32

Type: **not specified**

Recent developments on projection-based emulators for quantum continuum states

Wednesday, 1 March 2023 15:00 (30 minutes)

Presenter: ZHANG, Xilin

Session Classification: Afternoon

Contribution ID: 36

Type: **not specified**

Computing nuclear responses for open-shell nuclei in coupled-cluster theory

Wednesday, 1 March 2023 14:00 (10 minutes)

Presenter: BONAITI, Francesca

Session Classification: Poster Jamboree

Contribution ID: 37

Type: **not specified**

Neutrinoless double- β decay from an effective field theory for heavy nuclei

Wednesday, 1 March 2023 14:10 (10 minutes)

Presenter: BRASE, Catharina

Session Classification: Poster Jamboree

Contribution ID: **38**

Type: **not specified**

(Towards) Emulators for the IMSRG

Wednesday, 1 March 2023 14:20 (10 minutes)

Presenter: DAVISON, Jacob

Session Classification: Poster Jamboree

Contribution ID: 39

Type: **not specified**

Bogoliubov coupled-cluster theory

Wednesday, 1 March 2023 14:30 (10 minutes)

Presenter: DEMOL, Pepijn

Session Classification: Poster Jamboree

Contribution ID: 40

Type: **not specified**

Standard Model corrections to Fermi decays in the NCSM

Wednesday, 1 March 2023 14:40 (10 minutes)

Presenter: GENNARI, Michael

Session Classification: Poster Jamboree

Contribution ID: 41

Type: **not specified**

IMSRG with three-body operators

Wednesday, 1 March 2023 14:50 (10 minutes)

Presenter: HEINZ, Matthias

Session Classification: Poster Jamboree

Contribution ID: 42

Type: **not specified**

Towards Precision Calculations of Hypernuclei”

Thursday, 2 March 2023 15:30 (10 minutes)

Presenter: KNÖLL, Marco

Session Classification: Poster Jamboree

Contribution ID: 43

Type: **not specified**

Beyond Conventional RPA - Basis Optimization, Uncertainty Quantification and IM-SRG

Thursday, 2 March 2023 15:40 (10 minutes)

Presenter: MERTES, Laura

Session Classification: Poster Jamboree

Contribution ID: 44

Type: **not specified**

New developments in the Gamow No-Core Shell Model

Presenter: MÜLLER, Julius

Session Classification: Poster Jamboree

Contribution ID: 45

Type: **not specified**

Ab-initio description of monopole resonances in light- and medium-mass nuclei

Thursday, 2 March 2023 15:50 (10 minutes)

Presenter: PORRO, Andrea

Session Classification: Poster Jamboree

Contribution ID: 46

Type: **not specified**

Bayesian Analysis of chiral EFT at Leading Order in a Modified Weinberg Power Counting

Thursday, 2 March 2023 16:00 (10 minutes)

Presenter: THIM, Oliver

Session Classification: Poster Jamboree

Contribution ID: 47

Type: **not specified**

Scaled Natural Orbitals for Nuclear Radii

Thursday, 2 March 2023 16:10 (10 minutes)

Presenter: WAGNER, Lisa

Session Classification: Poster Jamboree

Contribution ID: 48

Type: **not specified**

Machine Learning for Ab Initio Nuclear Structure Calculations

Thursday, 2 March 2023 16:20 (10 minutes)

Presenter: WOLFGRUBER,, Tobias

Session Classification: Poster Jamboree

Contribution ID: 49

Type: **not specified**

Exploring Low-Rank Structures in the IMSRG Framework

Thursday, 2 March 2023 16:30 (10 minutes)

Presenter: ZHU, Boyao

Session Classification: Poster Jamboree

Contribution ID: 50

Type: **not specified**

Improving Skryme energy density functionals with chiral effective field theory

Thursday, 2 March 2023 16:40 (10 minutes)

Presenter: ZUREK, Lars

Session Classification: Poster Jamboree