Pan-American Few-Body Physics Boot Camp: Fostering Collaboration

Report of Contributions

https://indico.ectstar.eu/e/249

Contribution ID: **303** Type: **not specified**

Welcome address from the ECT* direction and senior staff introduction

Monday 13 October 2025 09:00 (45 minutes)

Topic

Contribution ID: **304** Type: **not specified**

Discussion

Monday 13 October 2025 09:45 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **305** Type: **not specified**

Talk by Filip Agert

Monday 13 October 2025 10:45 (45 minutes)

Topic

Author: AGERT, Nils Filip (IJCLab)

Presenter: AGERT, Nils Filip (IJCLab)

Track Classification: Nuclear reactions

Contribution ID: **306** Type: **not specified**

Discussion

Monday 13 October 2025 11:30 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **307** Type: **not specified**

Group Work

Monday 13 October 2025 13:30 (2 hours)

Track Classification: Group work

Contribution ID: **308** Type: **not specified**

Discussion

Monday 13 October 2025 16:00 (1 hour)

Track Classification: Discussion

Contribution ID: **309** Type: **not specified**

Talk by Louis Heitz

Thursday 23 October 2025 09:00 (45 minutes)

Topic

Author: HEITZ, Louis (IJCLab)

Presenter: HEITZ, Louis (IJCLab)

Track Classification: Nuclear structure

Contribution ID: **310** Type: **not specified**

Discussion

Tuesday 14 October 2025 09:45 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **311** Type: **not specified**

Talk by Vinicius Ader

Tuesday 14 October 2025 10:45 (45 minutes)

Topic

Author: ADER, Vinicius (Universidade de Sao Paulo)

Presenter: ADER, Vinicius (Universidade de Sao Paulo)

Contribution ID: **312** Type: **not specified**

Discussion

Tuesday 14 October 2025 11:30 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **313** Type: **not specified**

Group Work

Tuesday 14 October 2025 13:30 (2 hours)

Contribution ID: **314** Type: **not specified**

Discussion

Tuesday 14 October 2025 16:00 (1 hour)

Track Classification: Discussion

Contribution ID: **315** Type: **not specified**

Complete and Incomplete Fusion of Light Nuclei

Wednesday 15 October 2025 09:00 (45 minutes)

The projectile's low breakup threshold significantly impacts fusion dynamics, making precise predictions of CF and ICF cross sections a major theoretical challenge.

Topic

Author: BORGES, Jeannie Rangel (Universidade do Estado do Rio de Janeiro)

Presenter: BORGES, Jeannie Rangel (Universidade do Estado do Rio de Janeiro)

Track Classification: Nuclear reactions

Contribution ID: **316** Type: **not specified**

Discussion

Wednesday 15 October 2025 09:45 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **317** Type: **not specified**

Talk by Patrick McGlynn

Wednesday 15 October 2025 10:45 (45 minutes)

Topic

Presenter: MCGLYNN, Patrick (FRIB)

Track Classification: Nuclear reactions

Contribution ID: **318** Type: **not specified**

Discussion

Wednesday 15 October 2025 11:30 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **319** Type: **not specified**

Modified few-body Faddeev-type equations in configuration space

Wednesday 15 October 2025 13:30 (1 hour)

Topic

Author: SULTANOV, Renat

Presenter: SULTANOV, Renat

Track Classification: Nuclear reactions

Contribution ID: **320** Type: **not specified**

Group Work

Wednesday 15 October 2025 14:30 (30 minutes)

Track Classification: Group work

Contribution ID: **321** Type: **not specified**

Discussion

Wednesday 15 October 2025 16:00 (1 hour)

Track Classification: Discussion

Contribution ID: **322** Type: **not specified**

Talk by Francesca Bonaiti

Thursday 16 October 2025 09:00 (45 minutes)

Topic

Author: BONAITI, Francesca (FRIB)

Presenter: BONAITI, Francesca (FRIB)

Contribution ID: **323** Type: **not specified**

Discussion

Thursday 16 October 2025 09:45 (30 minutes)

Track Classification: Nuclear structure

Contribution ID: **324** Type: **not specified**

Nuclear reactions and nuclear structure.

Thursday 16 October 2025 10:45 (45 minutes)

Topic

Author: PINHEIRO-CARNEIRO, Branda (Federal Fluminense University)

Presenter: PINHEIRO-CARNEIRO, Branda (Federal Fluminense University)

Track Classification: Nuclear structure

Contribution ID: **325** Type: **not specified**

Discussion

Thursday 16 October 2025 11:30 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **326** Type: **not specified**

Excursion

Thursday 16 October 2025 12:15 (7 hours)

Contribution ID: **327** Type: **not specified**

Talk by Maximilian Jorwieser

Friday 17 October 2025 09:00 (45 minutes)

Topic

Author: KORWIESER, Maximilian (TUM)

Presenter: KORWIESER, Maximilian (TUM)

Track Classification: Femtoscopy

Contribution ID: **328** Type: **not specified**

Discussion

Friday 17 October 2025 09:45 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **329** Type: **not specified**

Talk by Georgios Mantzaridis

Friday 17 October 2025 10:45 (45 minutes)

Topic

Author: MANTZARIDIS, Georgios (TUM)

Presenter: MANTZARIDIS, Georgios (TUM)

Track Classification: Femtoscopy

Contribution ID: **330** Type: **not specified**

Discussion

Friday 17 October 2025 11:30 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **331** Type: **not specified**

Group Work

Friday 17 October 2025 13:30 (2 hours)

Track Classification: Group work

Contribution ID: **332** Type: **not specified**

Discussion

Friday 17 October 2025 16:00 (1 hour)

Track Classification: Discussion

Contribution ID: **333** Type: **not specified**

Lecture

Monday 20 October 2025 09:00 (45 minutes)

Topic

Author: KIEVSKY, Alejandro (INFN)

Presenter: KIEVSKY, Alejandro (INFN)

Track Classification: Nuclear reactions

Contribution ID: **334** Type: **not specified**

Discussion

Monday 20 October 2025 09:45 (15 minutes)

Track Classification: Presentation discussions

Contribution ID: **335** Type: **not specified**

The Three-Body Limit Cycle: Universal Form for General Regulators

Monday 20 October 2025 10:45 (45 minutes)

We derive the universal functional form of the three-body renormalization relation for general separable regulators through a detailed analysis of the Skorniakov-Ter-Martirosian and Faddeev equations.

Topic

Presenter: Dr WU, Feng (IJCLab)

Track Classification: Effective field theory

Contribution ID: **336** Type: **not specified**

Discussion

Monday 20 October 2025 11:30 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **337** Type: **not specified**

Group Work

Monday 20 October 2025 13:30 (2 hours)

Track Classification: Group work

Contribution ID: **338** Type: **not specified**

Discussion

Monday 20 October 2025 16:00 (1 hour)

Track Classification: Discussion

Contribution ID: **339** Type: **not specified**

Effective field theory for atomic 4He clusters

Tuesday 21 October 2025 09:00 (45 minutes)

We study helium-4 clusters using effective field theory, computing their binding energies with quantum Monte Carlo methods. The results highlight universal features of strongly interacting systems.

Topic

Author: MADEIRA, Lucas (ECT*)

Presenter: MADEIRA, Lucas (ECT*)

Track Classification: Atomic, molecular and optical physics

Contribution ID: **340** Type: **not specified**

Discussion

Tuesday 21 October 2025 09:45 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **341** Type: **not specified**

Deformed one-neutron halo nuclei using halo effective field theory

Tuesday 21 October 2025 10:45 (45 minutes)

In this talk, I present a phenomenological extension of halo-EFT and a more formal EFT-like study that include core excitation effects. Results for Be, C and C will be shown.

Topic

Author: KUBUSHISHI, Live-Palm (Ohio University)

Presenter: KUBUSHISHI, Live-Palm (Ohio University)

Track Classification: Effective field theory

Contribution ID: **342** Type: **not specified**

Discussion

Tuesday 21 October 2025 11:30 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **343** Type: **not specified**

Group Work

Tuesday 21 October 2025 13:30 (2 hours)

Track Classification: Group work

Contribution ID: **344** Type: **not specified**

Discussion

Tuesday 21 October 2025 16:00 (1 hour)

Track Classification: Discussion

Contribution ID: **345** Type: **not specified**

Talk by Philipp Quoss

Wednesday 22 October 2025 09:00 (45 minutes)

Topic

Author: QUOSS, Philipp (TUD)

Presenter: QUOSS, Philipp (TUD)

Track Classification: Effective field theory

Contribution ID: **346** Type: **not specified**

Discussion

Wednesday 22 October 2025 09:45 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **347** Type: **not specified**

Discrete and Continuous Scale Invariance in Quantum Few-Body Systems: Applications to Cold Atoms and Two-Neutron Halo Nuclei

Wednesday 22 October 2025 10:45 (45 minutes)

Efimov universality describes three-body systems near unitarity, where large scattering lengths make their properties essentially independent of short-range interaction details. This regime is marked by discrete scale invariance, reflected in a geometric spectrum of trimers. In ultracold atomic gases, external magnetic fields allow precise tuning of interactions to the resonant regime, while confinement in traps enables the exploration of extreme spatial compression. Theoretical studies model this compression through an effective continuous dimension, showing that beyond a critical value the discrete scale invariance of three dimensions is suppressed and replaced by continuous scale invariance. Remarkably, nuclear physics offers a natural analogue: two-neutron halo nuclei are weakly bound systems sustained by a fine-tuned neutron–core interaction, leading to a very large scattering length. In this context, Efimov physics provides the framework to analyze their geometry, including the mean distances among constituents, governed by scaling laws set by a single three-body parameter.

Topic

Author: FRANCISCO, Rafael Mendes (ITA)

Presenter: FRANCISCO, Rafael Mendes (ITA)

Track Classification: Atomic, molecular and optical physics

Contribution ID: **348** Type: **not specified**

Discussion

Wednesday 22 October 2025 11:30 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **349** Type: **not specified**

Lecture

Wednesday 22 October 2025 13:30 (1 hour)

Contribution ID: **350** Type: **not specified**

Group Work

Wednesday 22 October 2025 14:30 (1 hour)

Contribution ID: **351** Type: **not specified**

Discussion

Wednesday 22 October 2025 16:00 (1 hour)

Contribution ID: **352** Type: **not specified**

Talk by Andrew Smith

Tuesday 14 October 2025 09:00 (45 minutes)

Topic

Author: SMITH, Andrew John (FRIB)

Presenter: SMITH, Andrew John (FRIB)

Track Classification: Nuclear reactions

Contribution ID: **353** Type: **not specified**

Discussion

Thursday 23 October 2025 09:45 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **354** Type: **not specified**

Talk by Luiz Tenorio

Thursday 23 October 2025 10:45 (45 minutes)

Topic

Author: TENORIO, Luiz Gustavo Mendonca (ITA/Tohoku University)

Presenter: TENORIO, Luiz Gustavo Mendonca (ITA/Tohoku University)

Track Classification: Atomic, molecular and optical physics

Contribution ID: **355** Type: **not specified**

Discussion

Thursday 23 October 2025 11:30 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **356** Type: **not specified**

Group Work

Thursday 23 October 2025 13:30 (2 hours)

Track Classification: Group work

Contribution ID: **357** Type: **not specified**

Discussion

Thursday 23 October 2025 16:00 (1 hour)

Track Classification: Discussion

Contribution ID: **358** Type: **not specified**

Talk by Pedro Magro

Friday 24 October 2025 09:00 (45 minutes)

Topic

Author: MAGRO, Pedro Luis Domingues (Universidade de Sao Paulo)

Presenter: MAGRO, Pedro Luis Domingues (Universidade de Sao Paulo)

Contribution ID: **359** Type: **not specified**

Discussion

Friday 24 October 2025 09:45 (30 minutes)

Track Classification: Presentation discussions

Contribution ID: **360** Type: **not specified**

Group Work

Friday 24 October 2025 10:45 (45 minutes)

Track Classification: Group work

Contribution ID: **361** Type: **not specified**

Closing

Friday 24 October 2025 11:30 (30 minutes)

Track Classification: Discussion