

# **Multi-Particle Reactions - Workshop**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## Opening remarks

*Monday 28 July 2025 09:00 (30 minutes)*

**Presenter:** BRICENO, Raul

**Session Classification:** Presentation

Contribution ID: 2

Type: **not specified**

# Hadron Spectroscopy at the frontier of theory and experiment

*Monday 28 July 2025 09:30 (25 minutes)*

**Author:** PILLONI, Alessandro (Universita di Messina e INFN Catania)

**Presenter:** PILLONI, Alessandro (Universita di Messina e INFN Catania)

**Session Classification:** Phenomenology and Lattice

Contribution ID: 3

Type: **not specified**

## Regge approach to light meson photoproduction

*Monday 28 July 2025 10:00 (25 minutes)*

**Author:** MONTANA, Gloria (Jefferson Lab)

**Presenter:** MONTANA, Gloria (Jefferson Lab)

**Session Classification:** Phenomenology and Lattice

Contribution ID: 4

Type: **not specified**

## Finite Energy Sum Rules For $\pi p \rightarrow \pi \eta p$

*Monday 28 July 2025 11:00 (25 minutes)*

**Author:** HAMMOUD, Nadine (University of Barcelona)

**Presenter:** HAMMOUD, Nadine (University of Barcelona)

**Session Classification:** Phenomenology and Lattice

Contribution ID: 5

Type: **not specified**

## AI-enhanced analysis of $\pi\pi$ scattering

*Monday 28 July 2025 11:30 (25 minutes)*

**Author:** SMITH, Wyatt (Università di Messina)

**Presenter:** SMITH, Wyatt (Università di Messina)

**Session Classification:** Phenomenology and Lattice

Contribution ID: 6

Type: **not specified**

## $J/\psi$ photoproduction in the near threshold region

*Monday 28 July 2025 12:00 (25 minutes)*

**Author:** FERNÁNDEZ RAMÍREZ, César (UNED)

**Presenter:** FERNÁNDEZ RAMÍREZ, César (UNED)

**Session Classification:** Phenomenology and Lattice

Contribution ID: 7

Type: **not specified**

## **$\eta$ and $\eta'$ meson production in $J/\psi$ radiative decays from lattice QCD**

*Monday 28 July 2025 15:00 (25 minutes)*

**Author:** BATELAAN, Mischa (William & Mary)

**Presenter:** BATELAAN, Mischa (William & Mary)

**Session Classification:** Phenomenology and Lattice



Contribution ID: 8

Type: **not specified**

## The $\rho$ and $K^*$ resonances from lattice QCD at physical quark masses

*Monday 28 July 2025 15:30 (25 minutes)*

**Author:** PITANGA LACHINI, Nelson (University of Cambridge)

**Presenter:** PITANGA LACHINI, Nelson (University of Cambridge)

**Session Classification:** Phenomenology and Lattice

Contribution ID: 9

Type: **not specified**

# Bayesian Analysis and Analytic Continuation of Scattering Amplitudes from Lattice QCD

*Monday 28 July 2025 16:30 (25 minutes)*

**Author:** SALG, Miguel (University of Bern)

**Presenter:** SALG, Miguel (University of Bern)

**Session Classification:** Phenomenology and Lattice

Contribution ID: **10**

Type: **not specified**

## **Baryon Charges from Lattice QCD**

*Tuesday 29 July 2025 14:15 (25 minutes)*

**Author:** PETRAK, Pia Leonie Jones (Jefferson Lab)

**Presenter:** PETRAK, Pia Leonie Jones (Jefferson Lab)

**Session Classification:** Lattice

Contribution ID: **11**

Type: **not specified**

## Exotic Tbc tetraquarks from Lattice QCD

*Tuesday 29 July 2025 09:00 (25 minutes)*

**Author:** RADHAKRISHNAN, Archana

**Presenter:** RADHAKRISHNAN, Archana

**Session Classification:** Lattice

Contribution ID: **12**

Type: **not specified**

## Evolution of Efimov States

*Tuesday 29 July 2025 09:30 (25 minutes)*

**Author:** ISLAM, Md Habib (Old Dominion University)

**Presenter:** ISLAM, Md Habib (Old Dominion University)

**Session Classification:** Lattice

Contribution ID: 13

Type: **not specified**

## **Scattering on the left-hand cut: an update on the 2-body finite-volume formalism**

*Tuesday 29 July 2025 10:00 (25 minutes)*

**Authors:** BAIAO RAPOSO, Andre (Ruhr-Universität Bochum); RAPOSO, Andre

**Presenters:** BAIAO RAPOSO, Andre (Ruhr-Universität Bochum); RAPOSO, Andre

**Session Classification:** Lattice

Contribution ID: **14**

Type: **not specified**

## $D\pi$ and $\pi\pi\pi$ scattering from lattice QCD

*Tuesday 29 July 2025 11:00 (25 minutes)*

**Author:** YAN, Haobo

**Presenter:** YAN, Haobo

**Session Classification:** Lattice

Contribution ID: 15

Type: **not specified**

## **Towards extracting three-pion amplitudes from lattice QCD**

*Tuesday 29 July 2025 11:30 (25 minutes)*

**Author:** HANSEN, Maxwell (University of Edinburgh)

**Presenter:** HANSEN, Maxwell (University of Edinburgh)

**Session Classification:** Lattice



Contribution ID: **16**

Type: **not specified**

## **Meson production amplitudes from Lattice QCD**

*Tuesday 29 July 2025 12:00 (25 minutes)*

**Author:** ORTEGA GAMA, Felipe (UC Berkeley)

**Presenter:** ORTEGA GAMA, Felipe (UC Berkeley)

**Session Classification:** Lattice

Contribution ID: **18**

Type: **not specified**

## Real-time Estimators for Scattering Observables

*Tuesday 29 July 2025 14:45 (25 minutes)*

**Authors:** BURBANO, Iván (UC Berkeley); CARRILLO, Marco (Old Dominion University)

**Presenters:** BURBANO, Iván (UC Berkeley); CARRILLO, Marco (Old Dominion University)

**Session Classification:** Lattice

Contribution ID: **19**

Type: **not specified**

## **A renormalization group approach for radiative corrections in few-nucleon systems**

*Wednesday 30 July 2025 09:00 (25 minutes)*

**Author:** RICHARDSON, Thomas

**Presenter:** RICHARDSON, Thomas

**Session Classification:** Ab initio and Structure

Contribution ID: **20**

Type: **not specified**

## USQCD - The Origin Story

*Tuesday 29 July 2025 17:00 (20 minutes)*

**Author:** EDWARDS, Robert (Jefferson Lab)

**Presenter:** EDWARDS, Robert (Jefferson Lab)

**Session Classification:** Lattice

Contribution ID: 21

Type: **not specified**

## **Three-nucleon neutrinoless double beta decay matrix elements in light nuclei**

*Wednesday 30 July 2025 09:30 (25 minutes)*

**Author:** CHAMBERS-WALL, Graham

**Presenter:** CHAMBERS-WALL, Graham

**Session Classification:** Ab initio and Structure

Contribution ID: 22

Type: **not specified**

## **A New Class of Three Nucleon Forces and their Implications**

*Wednesday 30 July 2025 10:00 (25 minutes)*

**Author:** DAWID, Maria

**Presenter:** DAWID, Maria

**Session Classification:** Ab initio and Structure

Contribution ID: 23

Type: **not specified**

## **Tau Tridents at Accelerator Neutrino Facilities**

*Wednesday 30 July 2025 11:00 (25 minutes)*

**Author:** LOPEZ GUTIERREZ, Diego

**Presenter:** LOPEZ GUTIERREZ, Diego

**Session Classification:** Ab initio and Structure

Contribution ID: 24

Type: **not specified**

# Connecting Finite Volume Harmonic-Oscillator-Based Effective Theory to an A-Body Effective Hamiltonian for Light Nuclei

*Wednesday 30 July 2025 11:30 (25 minutes)*

**Author:** MCELVAIN, Kenneth

**Presenter:** MCELVAIN, Kenneth

**Session Classification:** Ab initio and Structure



Contribution ID: 25

Type: **not specified**

## Trace Anomaly and Pressure-Energy Relation

*Wednesday 30 July 2025 12:00 (25 minutes)*

**Author:** LIU, Keh-Fei (University of Kentucky)

**Presenter:** LIU, Keh-Fei (University of Kentucky)

**Session Classification:** Ab initio and Structure

Contribution ID: 26

Type: **not specified**

## **A sub-percent Determination of the Nucleon Axial Coupling from Lattice QCD**

*Wednesday 30 July 2025 14:30 (25 minutes)*

**Presenter:** HALL, Zack

**Session Classification:** Ab initio and Structure

Contribution ID: 27

Type: **not specified**

## Is (incl) = $\Sigma$ (excl) ?

*Wednesday 30 July 2025 15:00 (25 minutes)*

**Author:** HASHIMOTO, Shoji

**Presenter:** HASHIMOTO, Shoji

**Session Classification:** Ab initio and Structure

Contribution ID: **28**

Type: **not specified**

## Laurent Lellouch

*Wednesday 30 July 2025 15:30 (25 minutes)*

**Author:** LELLOUCH, Laurent

**Presenter:** LELLOUCH, Laurent

**Session Classification:** Ab initio and Structure

Contribution ID: 29

Type: **not specified**

# Symmetries of the S-matrix from Quantum Information

*Wednesday 30 July 2025 16:30 (25 minutes)*

**Presenter:** MCGINNIS, Navin

**Session Classification:** Ab initio and Structure

Contribution ID: **30**

Type: **not specified**

## **Lanczos for Multi-particle Spectroscopy**

*Thursday 31 July 2025 09:00 (25 minutes)*

**Author:** HACKETT, Dan

**Presenter:** HACKETT, Dan

**Session Classification:** Lattice

Contribution ID: **31**

Type: **not specified**

## **Two-Nucleon Spectroscopy at 800 MeV**

*Thursday 31 July 2025 09:30 (25 minutes)*

**Author:** PERRY, Robert (MIT)

**Presenter:** PERRY, Robert (MIT)

**Session Classification:** Lattice

Contribution ID: 32

Type: **not specified**

## **Baryon-baryon interactions with moderately and very heavy quarks**

*Thursday 31 July 2025 10:00 (25 minutes)*

**Author:** WAGMAN, Mike

**Presenter:** WAGMAN, Mike

**Session Classification:** Lattice



Contribution ID: 33

Type: **not specified**

## Optimized two-baryon operators using spatial wavefunctions in lattice QCD

*Thursday 31 July 2025 11:00 (25 minutes)*

**Presenter:** AOKI, Sinya

**Session Classification:** Lattice

Contribution ID: 34

Type: **not specified**

## **Lattice QCD studies on Kbar-N interactions and Lambda(1405) in the flavor SU(3) limit**

*Thursday 31 July 2025 11:30 (25 minutes)*

**Author:** MURAKAMI, Kotaro

**Presenter:** MURAKAMI, Kotaro

**Session Classification:** Lattice

Contribution ID: 35

Type: **not specified**

## $\bar{D}N$ Scattering at the Physical Point by the HAL QCD Method

*Thursday 31 July 2025 12:00 (25 minutes)*

**Author:** YAMADA, Wren

**Presenter:** YAMADA, Wren

**Session Classification:** Lattice

Contribution ID: **36**

Type: **not specified**

# The H-dibaryon continuum limit universality

*Thursday 31 July 2025 14:00 (25 minutes)*

**Author:** LAUDICINA, Davide

**Presenter:** LAUDICINA, Davide

**Session Classification:** Lattice

Contribution ID: 37

Type: **not specified**

## **Delta and Lambda resonances and NN scattering from lattice QCD**

*Thursday 31 July 2025 14:30 (25 minutes)*

**Author:** MORNINGSTAR, Colin (Carnegie Mellon University)

**Presenter:** MORNINGSTAR, Colin (Carnegie Mellon University)

**Session Classification:** Lattice

Contribution ID: **38**

Type: **not specified**

## Max Hansen

*Friday 1 August 2025 09:00 (15 minutes)*

**Author:** HANSEN, Maxwell (University of Edinburgh)

**Presenter:** HANSEN, Maxwell (University of Edinburgh)

**Session Classification:** Stevefest

Contribution ID: **39**

Type: **not specified**

## **My journey on lattice with Steve**

*Friday 1 August 2025 09:15 (25 minutes)*

**Author:** LEE, Weonjong

**Presenter:** LEE, Weonjong

**Session Classification:** Stevefest

Contribution ID: 40

Type: **not specified**

## How Steve brought HOPE to me and my colleagues

*Friday 1 August 2025 09:40 (25 minutes)*

**Author:** LIN, David

**Presenter:** LIN, David

**Session Classification:** Stevefest



Contribution ID: 41

Type: **not specified**

## A tale of three-body adventures

*Friday 1 August 2025 11:00 (25 minutes)*

**Author:** ROMERO LOPEZ, Fernando (University of Bern)

**Presenter:** ROMERO LOPEZ, Fernando (University of Bern)

**Session Classification:** Stevefest

Contribution ID: 42

Type: **not specified**

## Who is Steve Sharpe to me?

*Friday 1 August 2025 11:50 (25 minutes)*

**Author:** BAEZA-BALLESTEROS, Jorge

**Presenter:** BAEZA-BALLESTEROS, Jorge

**Session Classification:** Stevefest

Contribution ID: 43

Type: **not specified**

## **You'll Never Walk Alone: Steve as a Postdoc Mentor**

*Friday 1 August 2025 11:25 (25 minutes)*

**Author:** DAWID, Sebastian (University of Washington)

**Presenter:** DAWID, Sebastian (University of Washington)

**Session Classification:** Stevefest

Contribution ID: 44

Type: **not specified**

## OMG: Sharpee is Re-tyre-ing

*Friday 1 August 2025 14:40 (25 minutes)*

**Author:** GUPTA, Rajan (Los Alamos National Lab)

**Presenter:** GUPTA, Rajan (Los Alamos National Lab)

**Session Classification:** Stevefest

Contribution ID: 45

Type: **not specified**

## **Resonance: A malicious Brit and complex poles**

*Friday 1 August 2025 15:05 (25 minutes)*

**Author:** KAPLAN, David

**Presenter:** KAPLAN, David

**Session Classification:** Stevefest

Contribution ID: 46

Type: **not specified**

## **(Some of) Steve's (many) Contributions to Lattice Gauge Theory and Particle Physics**

*Friday 1 August 2025 14:15 (25 minutes)*

**Author:** BERNARD, Claude

**Presenter:** BERNARD, Claude

**Session Classification:** Stevefest

Contribution ID: 47

Type: **not specified**

## Ruth Van de Water

*Friday 1 August 2025 16:00 (25 minutes)*

**Author:** VAN DE WATER, Ruth

**Presenter:** VAN DE WATER, Ruth

**Session Classification:** Stevefest

Contribution ID: 48

Type: **not specified**

## Noam Shores

*Friday 1 August 2025 16:25 (25 minutes)*

**Author:** SHORESH, Noam

**Presenter:** SHORESH, Noam

**Session Classification:** Stevefest



Contribution ID: 49

Type: **not specified**

## **$\pi\pi$ scattering & the $\sigma$ from lattice QCD —dispersing some confusion ?**

*Monday 28 July 2025 14:30 (25 minutes)*

**Author:** DUDEK, Jozef (William & Mary / Jefferson Lab)

**Presenter:** DUDEK, Jozef (William & Mary / Jefferson Lab)

**Session Classification:** Phenomenology and Lattice

Contribution ID: 50

Type: **not specified**

## Maarten Golterman

*Friday 1 August 2025 10:05 (25 minutes)*

**Author:** GOLTERMAN, Maarten

**Presenter:** GOLTERMAN, Maarten

**Session Classification:** Stevefest

Contribution ID: **51**

Type: **not specified**

## Registration