## 37<sub>th</sub> WINTER WORKSHOP ON NUCLEAR DYNAMICS Marriot Puerto Vallarta Resort & Spa, Jalisco, México February 27 – March 5, 2022

## EDITORS:

Rene Bellwied (University of Houston, USA)

John Harris (Yale University, USA)

Claudia Ratti (University of Houston, USA)

Anthony Timmins (University of Houston, USA)

## Preface

These are the proceedings of the 37th edition of the Winter Workshop on Nuclear Dynamics, which was held in Puerto Vallarta, Mexico. This was the first in-person workshop in our field after the CoVid related lockdown. Similar to previous years the unique character of this conference series has allowed us to bring scientists from various fields of nuclear physics together to discuss their scientific achievements.

At the high-energy frontier very exciting results not only from the heavy-ion collisions but also smaller systems at the LHC were shown. At the lower energies results from the RHIC beam energy scan focus on critical phenomena in the nuclear matter phase diagram. The upcoming programs of sPHENIX and the planned electron-ion collider (EIC) were represented as well.

Theory progress has been made across all these different energy and system size regimes, and the new data, in particular from the LHC and RHIC, are motivating more detailed modeling and a deeper understanding of the underlying physics.

These proceedings of the 37th Winter Workshop on Nuclear Dynamics again provide a snapshot of the status of the field. The articles, many of which are written by some of the most promising young scientists in the field, are conveying the present excitement that permeates all subfields of nuclear science.