

First day – December 17		
Time	Activities	
08:30-08:50	Registration	
08:50-09:00	Opening	
	ROOM 1 (R58)	ROOM 2 (R59)
09:00-09:40	César A. Hidalgo – Plenary Talk The Infinite Alphabet and the Laws of Knowledge	
09:40-10:00	Juan Luis Orrego IR - Teaching through molecular dynamics. A didactic tool mix for thermodynamics and phase transition topics in the national curriculum	Yasmín Navarrete IR - Quantum physics outside of physics: The case in human color perception
10:00-10:20	Carlos Cartes IR - Mobility-based modeling of riot dynamics: application to Buenos Aires	Alice Gomes SM - General q-Gaussian solutions of a mean-field kinetic equation associated with the nonlinear Fokker-Planck equation
10:20-10:40	Coffee Break	
10:40-11:00	Hernán Gallegos IR - Analysis of Spatiotemporal Propagation of Wildfires in Chile using Complex Networks	Constanza Rivas Ortega SM - Quasi one dimensional model for active wetting
11:00-11:20	Juan Illanes IR - The Architecture of Innovation: Quantifying National Design Capacity through a Complexity Lens	Sergio Davis SM - Superstatistical Monte Carlo simulation of kappa-distributed particles using Gibbs sampling
11:20-11:45	Ignacio Ormazábal IR - Can we improve communication on the lunar ring road? An insight from complex networks	Sergio Curilef NS - Multi-Relaxation Time Model for Quasi-Stationary States
11:45-12:00	Flash poster session – Group No. 1	
12:00-13:00	Posters session – Group No. 1	
13:00-15:00	Lunch	
15:00-15:25	Víctor Muñoz CS - Activity and Cumulative Entropy in MHD Simulations via the GOY Shell Model with fractal forcing	Eugenio Vogel SM - Entropic function related to Shannon entropy
15.25-15.45	Pedro Julián CS - Optimal search strategies in diffusion with stochastic resetting	Diego Mora IP - The Thermodynamics of Binary Decisions: Statistical Inference in Two-State Systems
15.45-16.05	Esteban Zuñiga Puelles IR - Electrical and thermal transport in natural and synthetic PbS, FeS ₂ and PbCuSbS ₃	Boris Atenas IP - An Information Measure to Detect Grade Inflation
16.05-16.25	Jason Peña CS - How do line tension, bending energy, and kinetics influence viral capsid self-assembly?	Angel R. Plastino IR - Morphology of Emission Spectral Lines in Be Stars: The Entropy-Complexity Plane Approach
16.25-16.40	Coffee Break – Transfer to the Physics Department Auditorium	
16.25-16.40	Luisberis Velazquez – Public Talk (In Spanish) Repensar la Educación Superior: Una mirada desde los Sistemas Complejos	
17.20-18.20	Welcome Cocktail	

Poster Session – Group No. 1	
José Benítez Rojas - ML Analysis of physicochemical parameters with machine learning for water quality assessment in the Loa River	Felipe Tabilo - ML Optimization of brine extraction using Artificial intelligence decision schemes in Atacama's salt flat wells
Diego Garcia Venegas - ML Neural Networks and Machine Learning Algorithms Applied to Ising Model	Alejandro Rozas - BM Red blood cell aggregation dynamics
Francisco Remonsellez - CC Statistical signatures of plant effects on hyper-arid soil properties in the Atacama Desert	Edward Larroza - CS Nonlinear Fisher–Kolmogorov Equations for Macroeconomic Predator–Prey Dynamics
Joel Linares - CS Fluctuations and Complexity Measures for Particles in the Tight-Binding Model	Henry Revollo - CS Statistical analysis of the results of the general elections in Bolivia: 2025
Rafael Riveros-Ávila - DS The role of centrality in the distribution of chimera states on Duffing oscillator networks	Erick Marco Peredo Hervas - IP Joint Bayesian Inference of Orbital and Accelerated Proper Motion Parameters from Astrometric and Radial Velocity Observations of V773 Tau A

Second day – December 18		
Time	Activities	
08:30-09:00	Registration	
	ROOM 1 (R58)	ROOM 2 (R59)
09:00-09:40	Kornelius Nielsch – Plenary Talk Material Interfaces taking Control of Thermoelectric	
09:40-10:00	Bastian Castorene QT - On the Maximum Quantum Work in Critical Stirling Engines: Applications to Fibonacci–Lucas Degeneracies	Jaime Cisternas DS - Classification of symmetric chaos
10:00-10:20	Desiderio Vasquez NP - Density-driven convection for fronts described by the Nikolaesky equation	Antonio Rodríguez DS - Diffusion crossover between q-statistics and Boltzmann-Gibbs statistics in the alpha-XY model
10:20-10:40	Coffee Break	
10:40-11:00	Victoria Acosta NP - Equilibrium properties and magnetization dynamics of magnetic nanoscrews	Nicolás Herrera DS - Normal modes of graphene via proper orthogonal decomposition
11:00-11:20	Pablo Vilela NP - Effects of convection on exothermic reaction fronts in Hele-Shaw cells	Anne da Fonseca DS - Symmetry Breaking in Time-Dependent Billiards
11:20-11:45	Patricio Vargas QT - Quantum phase transition extension to finite temperatures	Cesar Maldonado DS - Critical behavior of connected dynamical systems of the interval
11:45-12:00	Flash poster session – Group No. 2	
12:00-13:00	Posters session – Group No. 2	
13:00-15:00	Lunch	
15:00-18.00	Social Activity: Excursion to Key Landmarks in Antofagasta	
20:00-22:00	Official Dinner	

Poster Session – Group No. 2	
Lucas Pierry - IR AI-Powered Quantification of Finger Tapping: A Step Toward Diagnosing Parkinson's Bradykinesia	Montserrat del Pilar Miranda Arenas - IR Biomimetic Leaf Replication for Evapotranspiration Studies in Plants
José Armando Yucra Olivera - IR Revision of the Güdel-Benz relationship: Data Updating and Statistical Reassessment Using MCMC	Yuvineza Gómez-Leyton - IR Volcanic Neutrinography: Computational simulation using neutrinos as probes to explore magmatic chambers
Katherine Llopis - IR Microbial Diversity Along a Lake-to-Glacier Gradient in Glacier Grey, Torres del Paine, Chile	Joel Linares - IR Using Remote Sensing Data Analysis to Improve Richness Searching in the North of Chile
Hishan Farfán - NS q-Simplex: A Geometric Framework for the q-Triplet	Cristóbal Neira - NS Shannon Entropy and Mutability Applied to Seismic Time and Magnitude Series: A Case Study of the Mw 8.4 Illapel 2015 Earthquake, Chile
Francisco Choque - NS Numerical study of the Vlasov equation with drag and external field	Rene Moreira Calizaya - NS Characterization of the Quasi-Stationary States in the d-HMF Model with an External Field

Third day – December 19		
Time	Activities	
	ROOM 1 (R58)	ROOM 2 (R59)
09:00-09:40	Everton Santos Medeiros – Plenary Talk Local control for the collective dynamics of self-propelled particles	
09:40-10:00	Mario Molina NP - Bound States in the Continuum in Fractional Quantum Lattices with Long-Range Hopping	Mouna Sbai Idrissi IR - Quantum physics outside of physics: The case in human color perception
10:00-10:20	Rafael Riveros-Ávila NP - Dissipative Rabi-like oscillations in an out-of-phase bi-localized parametrically driven system	Dianela Herrera ML - Monte-Carlo Optimization for Sampling Selection in Imbalanced Data Applied to Student Dropout Prediction
10:20-10:40	Coffee Break	
10:40-11:00	Genly Leon NP - Symbolic Laplace Modeling of Evolving Fractional Memory Kernels in Nonlinear Mechanical Systems	Santiago V. Blas Laguzza ML - Explainable Latent Representation Learning for Alzheimer's Disease: A β -VAE and Saliency Map Framework
11:00-11:20	Edward Arévalo NP - Formation and Dynamics of Periodic Spectrally Incoherent Solitons in Optical Fibers	Maria Aznar Palenzuela BM - Bacteriophage T7: link between a virtual and an experimental, atomic force microscope (AFM)
11:20-11:45	Orazio Descalzi NP - Dissipative solitons in an optical fiber: stationary, oscillating and chaotic pulses	Claudia Trejo Soto IR - Filling phenomena in microfluidics: experimental and numerical approaches for rheological studies
11:45-12:00	Flash poster session – Group No. 3	
12:00-13:00	Posters session – Group No. 3	
13:00-15:00	Lunch	
15:00-15:40	Roseli S. Wedemann – Plenary Talk Some features of Fokker-Planck equations with power-law diffusion, curl forces and anisotropic potentials	
15:40-16:00	Elías Santacruz NS - Surface Tension and Interfacial Dynamics of Microscale Fluids Using SPH	Javier Zamora NS - Q-triplet characterization of solar wind time series near 1 AU
16:00-16:25	Juan P. Carrillo-Mora NS - Depinning and activated motion of chiral self-propelled robots	Boris Maulén SM - Configurational density of states from Abel's generalized integral equation
16.25-17:00	Social Activity: Clausure Workshop	

Poster Session – Group No. 3	
Luis Miguel Galvis Elizalde - NP Complex optimal landscapes in the generation of non-classical states of light via two coupled quantum oscillators	Maria Teresa Veliz Aviles - NP Approximate analytical functions for the eigenvalues of the Schrödinger equation with cubic anharmonic potential
Michel Aguilera - SM Thermodynamics of the 2D Dipolar Q-Clock Model: Exact calculation for small systems	Matias Gonzalez - SM Nonextensive primordial plasma, N_{eff} bounds, and a dynamical relaxation model for q
Juan Martin Rodriguez - SM Surface characterization by adsorption measurements: Competition between heterogeneous adsorption potential and adsorbate–adsorbate lateral interactions	Camilo Lagos - SM Statistical mechanics of a complex network of Ehrenfest urns
Martín Helmrich von Elgott Groves - SM Strain-Driven Inverse Chiral Skyrmion Stirling Engine	Nikolas Naranjo - SM Experimental study of granular flow in a 2D silo with a rotating obstacle
Nicolas Angel - SM Numerical Vlasov Dynamics and Nonequilibrium Transitions for the Dipole Hamiltonian Mean Field (d-HMF) Model	Luisberis Velazquez - CS Solvable Models of the Student Progression

IWoSP 2025 Topics

- **Artificial Intelligence & Machine Learning (ML)**
- **Biophysics modelling & Dynamics of biophysical systems (BM)**
- **Climate Change (CC)**
- **Complexity & Complex Systems (CS)**
- **Dynamical Systems (DS)**
- **Information Physics (IP)**
- **Interdisciplinary Research (IR)**
- **Nonequilibrium Systems (NS)**
- **Nonlinear Phenomena (NP)**
- **Quantum Thermodynamics (QT)**
- **Statistical Mechanics (SM)**