

ECT* Workshop on Lattice Nuclei, July 6-10, Trento

	Monday	Tuesday	Wednesday	Thursday	Friday
08:00 – 09:00					
09:00 – 10:00	M. Savage Opening and (NP)LQCD overview	J. Kirscher χ EFT at NLO for large m_π	A. Lovato χ EFT: A QMC approach	T. Luu Anti-periodic BC for (N)NN systems in NLEFT	
10:00 – 11:00	S. Aoki Nuclear forces from LQCD	S. König He-3 and low-energy p-d scattering in χ EFT	L. Contesi ^{16}O with χ EFT	A. Francis H-dibaryon in lattice QCD	
11:00 – 12:00	T. Yamazaki Light nuclei from $2+1$ LQCD	B. Long Renormalizing Chiral Nuclear Forces?	S. Elhatisari $\alpha-\alpha$ scattering with adiabatic projection	M. P. Lombardo Baryons on the lattice: cold and dense matter.	Coffee & tee & cake Attic discussion, summary and outlook
12:00 – 13:00					
13:00 – 14:00	U. van Kolck EFTs for $m_\pi \rightarrow 0 \rightarrow \infty$			M. Savage Electromagnetic nuclear properties from LQCD	
14:00 – 15:00	N. Barnea Role of FB/MB methods	E. Epelbaum Low-energy scattering theorems at unphys m_π		Attic discussion Coffee & tee	
15:00 – 16:00	Coffee & tee	Coffee & tee	Coffee & tee		
16:00 – 17:00	D. Gazit Weak reactions at low energies	A. Gezerlis Chiral (N)NN interactions with QMC		H. Grietherhammer Chiral extrapolation of e&m nuclear properties	
17:00 – 18:00					
18:00 – 19:00				Closing	
19:00 – 20:00	Reception	Restaurant at the end of the universe	Reception	Restaurant at the beginning of the universe	
20:00 – 21:00					

comments & todo: chair assignment; coffee break in the morning implicit; round-table discussion in the attic (old) seminar room of the ECT; color code: dark blue LQCD, orange: EFT, green: FB/MB methods, light blue: extra

comments, suggestions, & complaints: j.kirscher@mail.huji.ac.il

0.1 List of topics:

1. Lattice QCD calculations of nuclei with $A \leq 4$:
 - Energy spectra for $300 \text{ MeV} \lesssim m_\pi \lesssim 800 \text{ MeV}$.
 - Magnetic structure (moments and polarizabilities) at $m_\pi = 800 \text{ MeV}$.
 - Derivation of the nuclear force.
 - The strange H-dibaryon.
2. Effective field theories for nuclear systems from the chiral to the heavy-pion-mass limit:
 - Pionless theory with and without electro-magnetic probes.
 - Electro-magnetic structure and scattering theorems from chiral perturbation theory.
3. Ab-initio methods for the nuclear few- and many-body problem
 - Quantum Monte Carlo calculations with chiral-effective interactions.
 - The diffusion Monte Carlo method with pionless interactions for $A \leq 16$.
 - Nuclear lattice techniques for 8-body scattering reactions.