

## 50 YEARS OF COUPLED CLUSTER THEORY

*All talks in room C-520 except July 2 after 2 PM*

Date	Name	Time	Topic
6/30	Bishop	8:45 – 9:00	Introduction: Kümmel
1	Kümmel	9:00 – 9:45	Measurement in Quantum Theory
	Davidson	9:45 – 10:00	Introduction: Cizek
2	Cizek	10:00 – 10:45	Equations for the Components of Cluster Expansion. Symmetric versus Asymmetric Form. Historical and Computational Remarks
		10:45 – 11:15	Coffee Break
	Jeziorski	11:15 – 11:30	Introduction: Paldus
3	Paldus	11:30 – 12:15	Coupled-cluster approaches and quasidegeneracy: a historical slice
4	Bishop	12:15 – 12:55	Few-body correlations in light- and intermediate-mass nuclei: Ab initio studies using coupled cluster and hybrid approaches
		1:00 -2:30	Lunch
5	Dean	2:30 - 3:10	Prospects of CC in nuclei: challenges and opportunities
6	Hagen	3:10 – 3:50	Coupled cluster theory for nuclei
		3:50 – 4:20	Coffee Break
7	Furnstahl	4:20 – 5:00	Using coupled cluster to validate nuclear DFT
8	Schwenk	5:00 – 5:40	Three-nucleon interactions and nuclear structure
9	Bacca	5:40 – 6:20	Three-nucleon interactions in light nuclei and possible approximations for CC theory

7/1	1	Bartlett	8:45 – 9:25	The next step in molecular coupled-cluster theory: structure, properties and excited states
	2	Jeziorski	9:25 – 10:05	Coupled-cluster approach to the dynamic density susceptibility function and its application to van der Waals interactions
	3	Crawford	10:05 – 10:45	Coupled cluster response theory and properties of chiral molecules
			10:45 – 11:15	Coffee Break
	4	Hirata	11:15 – 11:55	Coupled-cluster method for polymers
	5	Meissner	11:55 – 12:35	Intermediate Hamiltonian formulations of the coupled cluster methods
	6	Fernandez	12:35 – 1:15	Van der Waals complexes: coupled cluster evaluation of interaction properties
			1:15 – 2:30	Lunch
	7	Jankowski	2:30 – 3:10	The impact of orbital choice on performance of coupled-cluster methods
	8	Musial	3:10 -3:50	Multireference coupled cluster method in Fock space for excited states
			3:50 – 4:20	Coffee Break
	9	Horoï	4:20 – 5:00	Comparison between Coupled Clusters and CI
	10	Walet	5:00 – 5:40	The extended coupled cluster method and pairing problems
			7:00	Dinner at Ivar's

7/2	1	Johnson	8:45 – 9:25	Parity Nonconservation in Atoms: The Weak Charge and Anapole Moment of $^{133}\text{Cs}$
	2	Angom	9:25 – 10:05	Atomic electric dipole moment calculation with perturbed coupled cluster method
	3	Berger	10:05 – 10:45	Electroweak quantum chemistry
			10:45 – 11:15	Coffee Break
	4	Schwerdtfeger	11:15 – 11:55	Density functional and coupled cluster calculations for parity nonconservation in chiral molecules
	5	Chaudhuri	11:55 – 12:35	Improved virtual orbital based perturbation theory and its applications
			12:35 – 2:00	Lunch
				<b>***** <i>Move to Room A 114</i> *****</b>
	6	Barbieri	2:00 – 2:40	Applications of propagator theory to atoms and nuclei
	7	Hanrath	2:40 – 3:20	Recent Advances in the MRexpT approach: Theoretical analysis, efficient implementation and applications
	8	Samana	3:20 – 4:00	Comparison of RPA-like models in neutrino-nucleus processes
			4:00 – 4:30	Coffee Break
	9	Monkhorst	4:30 – 5:10	Chemical Physics without the born-oppenheimer approximation: the molecular coupled-cluster method
	10	All	5:10 – 5:50	Discussion