

## WEEK 8 SCHEDULE

TABLE 1. July 24-July 28

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00-9:00					
9:00-10:00		Research	Research	Research	Research
10:00-11:00	Presentations (PB 390)	Research	Research	Research	Research
11:00-12:00	Presentations (PB 390)	Research	Research	Colloquium (PB 192)	Research
12:00-1:00	Lunch	Lunch	Lunch	Lunch	Lunch
1:00-2:00	Research	Research	Research	Research	Research
2:00-3:00	Research	Research	Research	Research	Research
3:00-4:00	Research	Research	Research	Research	Research
4:00-5:00	Workshop (PB 134)		Footie		Farewell party

**Workshop:** Near future, opportunities, and authorship

**Colloquium speaker:** Michael Bishop (Fresno State)

**Title:** Spectral gaps in quantum spin systems

**Abstract:** In this talk, I will introduce quantum spin systems, spectrum, and the idea of a spectral gap. The behavior of quantum spin systems is determined by an ‘infinite matrix’ acting on an infinite dimensional vector space. The eigenvalues of this matrix and their spacing determine much of the behavior of the system. The crucial aspect is the existence of a gap between the lowest two eigenvalues. This talk will show how to generalize from matrices to linear operators, from eigenvalues to spectrum, and their importance in the differential equations which describe the dynamical behavior.