ABSTRACT:
Did you know that you can use a bowl made of radio waves to hold electrically charged particles? It’s called a Paul trap and it allows atomic physicists to use atomic and molecular ions as tools to study physical models and create useful technologies, such as highly accurate clocks. Despite being invented in the early 1950s, the behavior of ions in Paul traps is still not entirely understood. For instance, it was assumed that if you load ions into a Paul trap at a higher rate, you would end up with more ions in the trap at steady state, just like you would expect that if you increased your income, you would have more money left over after you paid your bills, but this is not the case!
This talk will explain how that can be, teach you everything you ever wanted to know about Paul traps, and discuss how we have created a powerful tool for studying chemical reactions close to absolute zero by combining a Paul trap and a neutral atom trap.

McCook Auditorium
Friday, December 11th @ 3:00PM
(refreshments will be offered @ 2:45 pm)