Coxiella burnetii is an obligate intracellular bacterial pathogen that causes the disease Q fever in humans. It typically spreads through infectious aerosols generated by ruminants. Cases of Q fever can be found worldwide, but they are particularly common in Australia, the Netherlands, and the Middle East. Acute Q fever is a self-limiting febrile illness, but chronic Q fever develops in some patients. This form of the infection is typically fatal and requires extensive antibiotic treatment. Our research is focused on understanding how the immune system responds to C. burnetii infection. We found important roles for immune cells called T cells and for B cells. T cells are important to clear the infection, while B cells are important in regulating the immune response. We also found that an avirulent form of C. burnetii induces a unique form of cell death in B cells. All studies presented here seek to understand the immune response to Q fever in order to develop new, more effective treatments for acutely and chronically infected patients.