San Joaquin Valley Fever (coccidioidomycosis) is an endemic systemic fungal infection. Like polio, valley fever infections are often asymptomatic and controlled by acquired immunity. Also similar to polio, a small proportion of infections produce debilitating disease, resulting in years or lifelong disability and occasional deaths. Thus, the biology and the public health impact of valley fever within its endemic region are as compelling for a preventative vaccine as is the case and subsequent success of the polio eradication efforts worldwide. Efforts to develop a valley fever vaccine have continued for 60 years. A killed spherule vaccine protected mice and underwent a human field trial. Unfortunately, injection-site reactions were common and the vaccine was ineffective. In the 1990’s, collaborative efforts produced recombinant protein vaccines which were protective in experimental murine infections. However, the costs associated with moving from discovery to a clinical formulation were prohibitive. More recently, live attenuated vaccines have been created by targeted gene disruption or deletion. Pre-clinical studies of one of these vaccine candidates, Δcps1, discussed elsewhere in this conference, have shown it to be both very safe and very effective. In contrast to past recombinant vaccine candidates, production and formulation of Δcps1 should be sufficiently inexpensive to permit clinical trials in both dogs and humans. Although live attenuated vaccines to viral and bacterial infections are common, Δcps1 would be the first live vaccine to prevent a eukaryotic infection. It would also demonstrate that vaccine strategies may sometimes prove successful in preventing diseases with small markets.

Biography
John N Galgiani has received his BA from Stanford University, MD from Northwestern University and his Infectious Diseases Fellowship from Stanford University. Since 1978, he has been a Faculty Member of the University of Arizona College of Medicine and Founder of the UA Valley Fever Center for Excellence. His research interests include the development of vaccines, therapeutics and diagnostics for coccidioidomycosis. In addition to authoring or co-authoring over 200 journal articles, he has contributed chapters on coccidioidomycosis to the Principles and Practice of Infectious Diseases, the Cecil Textbook of Medicine and UpToDate.

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