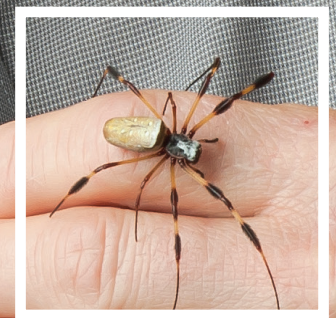


## Spider Silk: Not Just Fibers Anymore Dr. Randolph V. Lewis

Wednesday, November 9  
1-2 p.m.

Biology (building 21), room 265

Dr. Lewis will describe the natural silks produced by spiders, why they are important materials, and various uses for them. He will then describe his group's work to reproduce those spider silk proteins using a variety of different systems including bacteria, goats, alfalfa and silkworms. He will finish with work his laboratory is doing in making fibers, films, gels, coatings and adhesives out of these for a wide variety of applications.



Dr. Lewis received his BS from CalTech in 1972 and his PhD in 1978 from the UC San Diego. He was a postdoctoral fellow at the Roche Institute of Molecular Biology. He was on the faculty at University of Wyoming from 1980 until 2011. Randy joined Utah State University in 2011 as USTAR Professor of Biology.

His group has published over 140 papers and 16 book chapters. They have 11 issued patents. He has had grants totaling over \$33 million. Dr. Lewis has had 19 PhD and 4 MS students and currently has seven PhD students and 26 undergraduates in his lab.

His research focuses on spider silk proteins. They identified the proteins for all six of the different silks spiders can make. They constructed synthetic genes that make these proteins in bacteria, goats, alfalfa, and silkworms. The proteins are made into fibers, films, glues, coatings and gels. The goal of this work is to provide a method to produce materials custom designed for strength and elasticity for applications such as ligament and tendon repair, high tech clothing, parachutes, coatings for medial implants, etc.

Their research has been featured on Discovery, Nova, BBC and CSI New York.