Electrospun liquid silk from the gland of Bombyx mori silk/Green Fluorescent Proteins (GFP)/poly(ethylene oxide) SIRINA PUTTHANARAT, WORAPHON KATAPHANAN, RON EBY, DARRELL RENEKER, U. of Akron, SHARON JONES, RAJESH NAIK, AFRL/MLBJ, BARRY FARMER, AFRL/MLBP, U. OF AKRON COLLABORATION, AFRL/MLPB COLLABORATION — We have previously demonstrated that Green Fluorescent Protein (GFP) molecules can be incorporated into silk films and maintain their nonlinear optical properties as well as resist to damage at fluence of 0.1-0.2 J/cm\(^2\) [1]. In the present study we report the incorporation of GFP into electrospun fibers of liquid silk from the gland of B. mori. PEO was added to the silk/GFP solution to improve the processability. The silk/GFP/PEO solutions were successfully electrospun and the morphology of fibers was characterized using optical microscopy, and scanning electron microscopy. The resulting fibers exhibit fluorescent under the UV microscope in the reflection mode (epifluorescence) indicating incorporation of the GFP. The fiber diameters are less than 500 nm. Other characterization techniques are being applied. [1]. S. Putthanarat, et.al., “Nonlinear Optical Transmission of Silk/Green Fluorescent Protein (GFP) Films,” Polymer 2004;45:8451.