

1125-AG-1813 **Heather A Moon*** (hamoon@lcsc.edu), 500 8th Ave, Lewiston, ID 83501, **Thomas J Asaki** (tasaki@wsu.edu), PO BOX 641067, Neill Hall, Pullman, WA 99164-1067, **Marie Snipes** (msnipes@kenyon.edu), 103 College Rd, Gambier, OH 43022, and **Chris Camfield** (camfield@hendrix.edu), 1600 Washington Ave, Conway, AR 72032. *Collaborative Research: Data-Driven Applications Inspiring Upper-Division Mathematics.*

Our project provides undergraduate math students with a deep appreciation for Analysis tools and their real-life uses. Inspired by current data problems, we are creating adaptable and transportable application-based modules that are being tested and improved in an iterative fashion. Our module based approach differs markedly from the standard method of definition-theorem-proof-example. It also differs from other application-integrating approaches which illustrate the use of learned tools on real problems. Each module begins by introducing a cutting edge research problem in data, image, or video analysis. Solution paths inspire the development of mathematical concepts. Because the level and frequency of courses vary from institution to institution, we are creating these modules so that they are easily adaptable at both introductory and advanced levels. Our modules will be intended as supplements to the standard curriculum or as meldable into one or more full-length, problem-driven courses. In this talk, we present details about each module and the associated data-driven problems. We give examples of the topics that are inspired in each module. (Received September 19, 2016)