DATA MANAGEMENT PLAN

The primary type of raw data generated in this study will comprise digital video sequences. These will include 1) 2D standard videos; 2) 2D high-speed videos; and 3) high-speed holographic videos. These data will be stored digitally on external hard drives and on a local server (the appropriateness of using cloud storage will be investigated, as this type of data storage becomes more widespread for scientific data). All data and images derived from these videos will be stored together with the original metadata. Each video will be catalogued using a standard-format log sheet and protocol record to assure uniform collection of metadata associated with each experiment and filming condition. The standards used for the video metadata will be adapted from the standards we have developed for microscope images stored and accessed through specialized imaging software (*Podbase*). Metadata will be stored in hard copy and digitally. As the studies become published the relevant metadata on the experiments in each article will be added to the PIs web pages.
(http://www.pbrc.hawaii.edu/~petra/datalinks.html).

Analysis of the video data will vary depending on recording conditions. Standard video recordings will be reviewed digitally and scored manually for prey type, selectivity and escape success. These data will be recorded into Excel files and cross-referenced with the metadata for each video.   Data for each experiment will be assembled into Excel workbooks by experiment type as part of the regular analysis program. 2D high-speed videos will be analyzed using Image J and stored in Image-J compatible stack (tif) format. For each sequence, the section of interest will be identified and assembled into a series of still images for behavioral analysis of event timing, reconstruction of trajectories of predator and prey, and analysis of accelerations and velocities. Again these data will be stored in Excel file workbooks by type of experiment, cross-referenced by file name with the metadata and the analyzed sequence data. A similar approach will be taken with the holographic data. Here, there will be multiple files generated from each raw video, including computing-intensive output.

Sharing of data among project participants (PIs, collaborators and students) will occur via access through central storage managed through the PBRC server.   Studies will be published in peer-reviewed journals, and whenever appropriate supplementary material that includes raw and analyzed data will be made available. The PI's web-pages will be used to list citations to recent publications, pdfs of the publication if allowed by publisher, indexes of files with the metadata on the experiments included in the publication and sample videos and still images as supplementary material. Other scientists wishing to further analyze videos will be encouraged to contact us for copies of the original data.