

Title:	Wiki-based Data Management to Support Systems Toxicology A. Radadia ^{1*} , N. Rountree ^{1*} , C. Williams-DeVane ¹ , B. Van-Etten ² , J. Zhang ² , T. Hughes ¹ , B. George ¹ , D. Doerfler ¹ , M. Khan ¹ , A. Vega ¹ , D. Lyons ¹ , L. Burgoon ¹ , S. Edwards ¹ USEPA, RTP, NC * Authors contributed equally
Abstract: ATTENTION: Your abstract <u>must</u> use Microsoft Word document and Arial 12 pt in the title and names; use Arial 10 for the affiliation of the first author only (the name of the institution and city, state). Use Arial 11 pt in the body, which <u>must</u> fit into this space using no more than 250 words total. Please include: A topical introduction, materials & methods, results, summary and conclusions. Any figure, tables or references must fit into this space.	As the field of toxicology relies more heavily on systems approaches for mode of action discovery, evaluation, and modeling, the need for integrated data management is greater than ever. To meet these needs, we have developed a flexible system that assists individual or multiple research scientists with experimental planning and design, as well as for storing and publishing the data derived from the experiments. This system is designed with collaborative experiments in mind and easily allows sharing of data and tracking of changes to these data. The EPA WikiLIMS TM was constructed on the MediaWiki platform with experimental metadata stored inside the Wiki and links to raw data stored on the underlying file system. All aspects of the design are linked to bring the user a system that facilitates 1) planning and designing the whole life-cycle of the experiment, 2) backing up data with an automatic version-controlled mechanism so data cannot be lost and any modifications are fully documented, 3) organizing collaborators' contributions to the experiment into specified sections, 4) communicating with data analysts for comparing meta-analysis across multiple individual experiments, 5) tracking of samples via auto-generated Excel worksheets, and 6) constructing all necessary components for publication of experimental data via public repositories. With the EPA WikiLIMS TM data management and storage system, EPA scientists are able to save time and easily, efficiently and securely manage their experimental studies in one system. [This abstract does not necessarily reflect the views of the EPA or represent EPA endorsement of any product.]