



Exponent  
15375 SE 30th Place  
Suite 250  
Bellevue, WA 98007

telephone 425-519-8700  
facsimile 425-519-8799  
www.exponent.com

**Cristy M. Kessel**  
**Senior Scientist**

**Professional Profile**

Ms. Cristy M. Kessel is a Senior Scientist in Exponent's EcoSciences practice. Ms. Kessel has 16 years data management experience including 7 years analytical chemical laboratory experience. Ms. Kessel provides data management and support including database management, spreadsheet editing/formatting, data analysis, and web page editing. She is experienced in using MS Access, Excel, PowerPoint, Word, Plone, and PostgreSQL. Her recent work has included: creating the GIS/Data Management intranet web site using the content management system software Plone and the open-source database software PostgreSQL; periodic updates and maintenance to a real-time earthquake monitoring system using SQL Server and Python script; and collaborating on the design, implementation, and maintenance of web-based data management/mapping tools for Exponent project managers and their clients.

**Academic Credentials and Professional Honors**

B.S., Biology, Western Washington University, 1994

## **Publications**

Sabaliunas D, Pittinger C, Kessel C, Masscheleyn P. Residential energy use and potential conservation through reduced laundering temperatures in the United States and Canada. *Integr Environ Assess Manag* 2006; 2(2):142–153.

## **Presentations**

Sabaliunas D, Kessel C, Pittinger CA. Cold water cleaning opportunities: Potential cost and energy savings. Poster presentation at the 4<sup>th</sup> SETAC World Congress and 25<sup>th</sup> Annual Meeting in North America, Oregon Convention Center, Portland, OR, November 14–18, 2004.

Sabaliunas D, Kessel C, Pittinger CA, Boeije G, Masscheleyn P. Thermal energy budgets for home laundering in North America and Europe. Poster presentation at the SETAC Europe 15<sup>th</sup> Annual Meeting, Lille, France, May 22–26, 2005.

## **Prior Experience**

Quality Assurance Support/Special Projects, Blood Systems, Inc., 2002–2004  
Technical Analyst, The Boeing Company, 2001–2002  
Laboratory Technician/Office Manager, B&P Laboratories, Inc., 1995–2001

## **Project Experience**

*RI/FS Database and Web Tool* – Assisted in the design and implementation of this RI/FS database (PostgreSQL) with web tool user interface (Plone). Designed a schedule tracking database used in the web tool for the RI/FS project's management, organizing documents and files, and tracking task completions. Created data queries to retrieve project data summaries through the web interface. Worked with Jane Ma on the web site customization for content and functionality per the clients' needs and to optimize the web tool's use. This includes creating access groups, subsets of web site users of select study's data for specific tasks.

*SQL Server Database/Web Tool* – maintain and update the Exponent-created Earthquake Loss Estimation System. Respond to issues and perform regular maintenance to this tool which is comprised of a web server and database server. This includes three independent, identical web-database systems: a primary client system, a backup client system, and an internal development system. SQL Server database administration tasks include: routine backing up of databases; removing unnecessary earthquake data; and loading new geocoded client portfolio data sets using Python scripts. Respond to new earthquake data and error notifications automatically generated by the monitor program service. Update the monitor program configuration information such as client and data modeler contact information, notification frequency and types, and time intervals for monitoring and notifying stored in the SQL Server database using the SQL Server Enterprise Manager program.

*Litigation Case*—Created multiple Access databases to manage the project data and interact with a project web tool, designed for accessing the project data and viewing project maps, figures, and documents. Loaded historical data into the database downloaded from various agency web sites. Customized databases for usability and interactivity with the web tool. Assisted with the web site’s development and testing. Loaded and updated data in the database for maps displaying on the web tool. Reviewed large volumes of electronic files received from legal counsel and converted multi-page TIF files to single PDF documents.

*Fugitive Dust Study Support*—Received and loaded the laboratory data and validation qualifiers into the project database for the second phase remediation project. Assisted in creating, editing and QA/QC reviewing the Food Web Model tables. Prepared and formatted report data summaries and appendix tables.

*Project Data Protection*—Created a Visual Basic scripting program to perform an automated weekly backup procedure of currently active project databases for Exponent’s Boulder and Bellevue offices. This program, scheduled to run during the weekend to minimize network traffic, utilizes the Data Management Inventories database to gather names, domains and network paths of project databases and creates backup copies of them on the network to protect project data.

*Custom Data Exports to Regulatory Agencies*—Designed MS Access modules to automate export of the St. Lawrence River NRDA database per NOAA’s specifications and format requirements. Automating the export process with this newly developed procedure has reduced data export preparation time from days to hours, reduced data conversion errors, and facilitated export database QA/QC review.

*Custom Data Exports to Regulatory Agencies*—Exported data for the Horseshoe Road project to EPA. Transformed project database tables and fields to create an export database per EPA specifications. Established an export procedure to be utilized for subsequent data exports.

*Cold Water Energy Savings*—Assisted in a product stewardship project for client Procter & Gamble. Efforts included internet and literature data research, collection and summarization; reviewing and validating clients’ and newly collected data; performing calculations and data analysis of US and Canadian laundering energy and cost expenditures and savings, and CO<sub>2</sub> emissions; preparing and formatting data tables for a SETAC conference poster presentation; and preparing data tables and editing the final proof for submission to the quarterly journal *Integrated Environmental Assessment and Management*.