

# **Integrating IPMAP with Information Life Cycle Management for the Upstream Oil & Gas Industry**

## **ABSTRACT**

---

The Information Management Architecture at Chevron Upstream seeks to improve the management of the collection, processing, storage, and use of data for oil and gas exploration, development, and production. This presentation discusses the integration of Information Product Mapping (IPMAP) to support information quality assessment and improvement as part of the development of a Chevron Life Cycle Management (LCM) method to systematize analysis of sources and uses of data. Data issues in upstream include:

- the need to draw on terabytes of data to reduce uncertainty in decision making;
- the multi-decade longevity of data where data needed today may have been collected decades earlier in a different context and where data produced today may be needed decades in the future in a changed context;
- extended enterprise IQ where data crosses organizational boundaries within the corporation, among partner and contractor firms, as well as with public data repositories and purchased datasets; and
- differences that may arise from a focus on scientific and engineering data, filtered through models and calculations, as compared to business transaction and financial accounting data.

## **BIOGRAPHY**

---

### **Melanie Bell**

Information Management Champion  
Chevron Global Upstream and Gas

Mellanie Bell is Information Management Champion, Chevron Global Upstream and Gas. Melanie earned a B.S. She earned a BS in Applied Mathematical Sciences from Texas A&M University. She started her career as a seismic data processor for Western Geophysical. In 1991, she joined Chevron in the Gulf of Mexico Business Unit holding positions in technical data management and application support. She has also held positions in the Australia and Angola business units supporting information and data management practices for exploration, asset development and production operations and in the central technology organization developing new technologies. Her current position includes developing the Upstream Information Management Strategy.

### **Robert Elliott**

Data Management Consultant  
Data Assets & Analytics Division  
Chevron Information Technology Company

Robert Elliot is Data Management Consultant in the Data Assets & Analytics Division, Chevron Information Technology Company

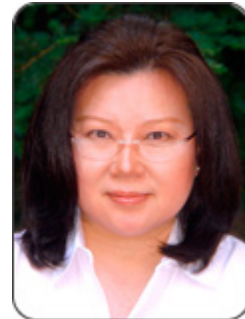
**Ed Moore**

Enterprise Architecture and Strategy Manager  
Chevron Information Technology Company

Ed Moore is Enterprise Architecture and Strategy Manager, Chevron Information Technology Company

**Yang W. Lee**

Associate Professor of Information, Operations, and Analysis Group  
College of Business Administration  
Northeastern University



Professor Yang W. Lee is a renowned researcher and leader in data and information quality. She is an Associate Professor of Information, Operations, and Analysis Group in the College of Business Administration at Northeastern University. Lee investigates the role of differentiated quality of information in information systems, work processes, and structural mechanisms given data-rich, service-critical, and extended organizational contexts. Her current research projects explore quality information products, extended enterprise systems integration, IT-mediated institutional learning, context-reflective problem solving, healthcare information and medical errors. Lee's work includes numerous prestigious journal publications, as well as several books on data quality: *Journey to Data Quality* (MIT Press, 2006), *Data Quality* (Kluwer Academic Publishers, 2000), and *Quality Information and Knowledge* (Prentice Hall, 1999). Her work has been embraced worldwide, having been translated into several different languages.

Dr. Lee received her Ph.D. from MIT. She is currently a visiting associate professor at MIT, and Deputy Director, MIT Information Quality Program while taking a sabbatical leave from Northeastern University. She co-founded the International Conference on Information Quality. She also co-founded Cambridge Research Group, through which she has put her research results into practice, providing consultation and solutions for companies and agencies in the private and public sectors in the US and internationally for over 20 years. She was awarded for her work from many institutions including the US intelligence community. She is the founding and current Co-Editor-in-Chief of *ACM Journal of Data and Information Quality*.

**Allen Moulton**

Research Scientist  
Massachusetts Institute of Technology

Allen Moulton is a Research Scientist at MIT Information Quality Program..