



Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



2019 Houston Professional Petroleum Data Expo

Speakers Abstracts

April 9, 2019

8:00-9:00am

Welcome and PPDM Update

Trudy Curtis (PPDM Association)

Short Biography: Trudy is the Chief Executive Officer of the Professional Petroleum Data Management (PPDM) Association, the global Not-For-Profit society focused on data management best practices and standards and data management as a professional discipline. Based in Calgary, Canada, Curtis has nearly four decades of years of experience in the industry and is known around the world for her outspoken advocacy data as a strategic asset, and its management as a core business function. After receiving a BSc. from the University of Calgary in 1978, Curtis went to work in the Oil and Gas industry. In 1996, she joined the PPDM Association as architect, CIO and ultimately CEO of PPDM Association. Curtis is leading the way to the emergence of data management as a global discipline, the creation and industry adoption of data management standards and best practices, the development of professional development and certification programs for data managers, and the professionalism of data management in the petroleum industry. In addition to her role as CEO of the PPDM Association, Curtis is co-founder of the Standards Leadership Council.

~~~~~

*9:10-9:50am*

#### Personal Branding

##### **Abhi Narvekar (The FerVID Group)**

**Description of Presentation:** What is your PII? Same as UWI maybe? A PII is Personal Identification Information. Yes – this could be a social security number as an example. But do you really want to be identified as a Number? I am Number 3, does not sound inspiring or strategic. Yes, a UWI is necessary for all of us to know which ‘well’ we are talking about. Similarly SSN is necessary to identify yourself. But SSN does not define who you are. A PII could be Petty Immoral and Inept. Or it could be Passionate Influential Inspiring! Once you work on your own Brand, Any project Transformation will seem to be a piece of cake!

What’s the connection you say? Well, your personal brand builds trust. Once people trust you, you can start influencing them. Once you influence people, they tend to listen and follow your thoughts. Which in turn allows for change to happen and the resistance goes away. And hence the transformation happens!

**Short Biography:** Abhijeet Narvekar has experience in the Upstream Oil & Gas industry with companies like Schlumberger, Petris and has worked in various roles, gaining invaluable domain expertise in the Data Management domain. (Borehole and Seismic Data Management – Applications and Workflow) In 2010, he founded The FerVID Group, which incorporated a novel idea of Expert-led

# Houston

## Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



recruiting, which is a seismic shift in the way recruiting is done. In his current role leading The FerVID Group, Abhijeet draws on his domain insights, and keen entrepreneurial acumen to execute innovative approaches for talent acquisition, upstream consulting and Big Data in HR. The name 'Fervid' is a derivation from fervor -meaning passion and enthusiasm, which is one of the core values of the company.

Abhijeet Narvekar has been presenting on several occasions. Recently he was a speaker at the SPE MIT June 2017 event, SPE – Pay it Forward network in October 2017, Positivity and Motivation for an Architecture firm in November 2017.

~~~~~

10:00-10:45am

Amazon's Culture of Innovation (Keynote Presentation)

Stephen Brozovich (Amazon)

Description of Presentation: There are two types of organizations in this world: ones that wait to be disrupted, and ones that disrupt themselves. To be the latter, companies have to embrace and unlock innovation. At Amazon, innovation is in our DNA. From Amazon's humble beginnings as the "World's Largest Bookstore," our passion for solving customer problems has driven us to invent solutions that reach far beyond the world of books and even conventional retail. But how do we do it? As with many other things, culture is key. In this talk, 19 year Amazon veteran Stephen Brozovich highlights the key cultural components that have driven Amazon's ability to invent, and shares some best practices that you can build on to drive innovation in your own world.

Short Biography: Stephen Brozovich started his career at Amazon in 1999 as a web developer. Since then he has been a Development Manager, Software Operations Manager and a Technical Program Manager (TPM). From 2009-2012 he was the group program manager for the Website Application Platform and Builder Tools teams where he managed cross-functional TPMs, product managers, QA, and Database Automation. From 2012-2016 Stephen served as Principal TPM for the Amazon Culture Program, charged with making sure Amazon is still the most innovative, customer-obsessed company on the planet 10 years from now. Following a one year rotation with Amazon's Executive Development team, Stephen transitioned in May 2017 to his current role running talent management for Amazon Web Services.

Stephen lives in Kent, WA with his wife, Cheryl, and three kids - Evan (19), Ariana (16), and Andrew (14). When not working or hanging out with his family, Stephen enjoys singing choral music with Opus7 (www.opus7.org) and building electric bass guitars (www.brozovich.guitars). Stephen got his B.A. in vocal performance from Biola University, where he learned how to sing French art songs with a Mexican accent.

~~~~~

*11:00-12:00pm*

### **Panel Discussion: PPDM's Board of Directors**

**Allan Huber (Shell), David Hood (geoLOGIC systems), Emile Coetzer (Chevron), Kevin Brunel (Brunel Analytics) and Peter MacDougall (IHS Markit)**

# Houston

## Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



**Description of Presentation:** A Panel Discussion featuring members of the Professional Petroleum Data Management (PPDM) Association's Board of Directors.

~~~~~

1:00-1:45pm

Taking Data to New Heights: Literally Offshore Acquisition Directly to Cloud

Guy Holmes (Tape Ark)

Description of Presentation: Last year at PPDM Houston, Tape Ark Founder & CEO Guy Holmes presented a live demo of onshore seismic acquisition in the field being recorded & ingested direct to the cloud. During question time and in subsequent discussions, the same comment was made by many – “Let me know when you can do that from a boat”. Well, that time is now upon us. To follow-up the highly successful 2018 presentation, Guy will provide an update on seismic ingest to the cloud including data from offshore seismic vessels using both conventional and very unconventional means. Since April 2018, numerous innovations have occurred that have advanced cloud based DM and processing to new extremes and new heights - literally. These changes, in conjunction with advancements in telecommunications, machine learning, data storage and artificial intelligence have created an environment where just about anything seems possible. To all you naysayers out there – this is your chance to get your questions answered.

Short Biography: In most of Guy's business ventures, magnetic tape storage was a key component to the business he was creating, and he spent a lot of time professing the merits of tape storage as the long-term storage medium of choice. However, late one night in 2015, after 19 years, and having read over 5 million tapes, this all changed for Guy when he made a profound discovery. That discovery led Guy to found Tape Ark – a company driven to eliminate historical tape archives from the planet.

~~~~~

### **Data Science Management**

#### **Vidar Andresen (PetroDataOnline)**

**Description of Presentation:** Data management for Upstream has been evolving over the years from how to store the data such as in a relational database, data connectivity and recently data quality. The amount of data is growing exponentially and the new challenge for data manager is how can you extract additional knowledge and make better predictions. The predictions can be related to various exploration or production workflows. You may have several Data Science projects starting up in your company and the important question for you as a data managers is how to manage this most effectively. This new stepping stone for data managers we are calling Data Science Management (DSM). DSM covers three main topics; Input Data Management, Model Management, and Result Management. This presentation covers the process of implementing a good Data Science Management process based on the agile methodology SAFE. Cloud Based Data Science makes it very efficient and easily accommodates scaling. This presentation presents how a cloud based PPDM data model can be used for data and model persistence. In addition, we cover the importance of quality checked data and how poor quality data can create very poor quality models, yielding incorrect predictions. Any machine learning will be useless if quality is unknown. You must have quality training data in order to create a good model. Model

# Houston

## Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



Management is key factor that is often overlooked. Data managers must manage all of these models and its informational data as they are being deployed. They basically need to be persisted efficiently so that you can continuously improve the accuracy of the model. Moving into a new area may for example require an update of the model. Any predictions made by the models will go back into your corporate or project data stores where it is very important that you have traceability. New Data Science Models will produce tremendous amounts of new data; in a sense, these models will become new sources of data. Just as Data Management today manage multi-source data stores, these models must be managed as new data sources.

The overall goal is to reduce cost by improving efficiency. This will give your customers, Geologists and Engineers, a competitive advantage in their day to day work by improving their efficiency.

**Short Biography:** Vidar Andresen has over 30 years of experience from the industry developing and implementing data management systems. This includes software such as Charisma, Exsci, PetroBank, InnerLogix and Studio in companies such as Schlumberger, Landmark and PGS. Dag Heggelund brings 30 years of experience as an industry recognized expert in software development and data quality, plus an extensive background in mathematical modeling. He founded InnerLogix and most recently Trace Register for seafood quality

~~~~~

Assessing the Value and ROI of Data Management Initiatives

John Pomeroy (The FerVID Group)

Description of Presentation: We all know that improving the quality of data is always a good thing, but exactly who will benefit, in what ways, and by how much? Do we expect more efficient staff? Lower headcount? Higher quality results? Reduced LOE? More reserves? When data quality is never perfect and funding for data management initiatives never ideal, finding the right mix of initiatives to drive business strategy can be challenging. By examining the ways initiatives improve the data upon which organizational capabilities and roles depend, it is possible to identify and quantify real-world tangible value to be expected from data quality and technology improvements. When all too often we measure success by data completeness or quality criteria, making an effort to understand the expected business capability improvements enables us to hone in, on the most valuable projects and also to plan effective metrics and KPIS to define and quantify real success."

Short Biography: John Pomeroy is Vice President of Data Management at The Fervid Group. Over the past 35 years John has worked for software, consulting and Oil and Gas operating companies. As well as many years of experience in subsurface data management, John's areas of expertise include solution architecture, data architecture, business architecture, and enterprise architecture. Key strengths include the ability to think big and act small - balancing broad vision and strategy with essential tactical process and data improvement initiatives.

~~~~~

### Anadarko Core Store- Corporate Core Data Repository

#### **James Miller (Anadarko)**

**Description of Presentation:** In 2017 Anadarko's analytics team (AAET) sponsored the creation of a core data sandbox. The primary challenge was to design a data loading strategy that would allow for attributing the core data at the sample level vs the report level. The resulting sandbox has since been

# Houston

## Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



matured into a Corporate Core Data repository that manages all forms of core data including digital data, documents and core imagery. A commercial software package (iPoint) was leveraged to provide all of the administrative tools needed to manage data classifications, curve aliasing and data loading/exporting functions. The setup also includes integrations for data security, access to the corporate well master, interpretation tools, GIS portals and elastic search capabilities.

**Short Biography:** James Miller joined Anadarko Petroleum in 2001 and has worked there as both a geologist and petrophysicist. James currently works in Anadarko's Global Geoscience E&P Data Systems group as a subject matter expert and systems architect helping move Anadarko's rich geoscience data resources into digital formats.

~~~~~

Predictions for 2019

Marc LaCour (ModalPoint)

Description of Presentation: Do you want to hear what the Oil and Gas industry has to look forward to for 2019? Then don't miss this opportunity to hear directly from Mark LaCour with modalpoint, what they're expecting of the industry in the future. Looking back they've had about a 75 percent success ratio, based on information from their clients and also the research they conduct all year long. The business of Oil and Gas is about to get MUCH more interesting...

Short Biography: Mark has lived at the intersection of Oil and Gas and Technology for over 23 years. Later he started his own market research company and has a well-earned reputation as an industry "insider" and independent 3rd party researcher. This led to him becoming a part of the new media, where he has the top podcasts in the oil and gas industry. He is a sought after public speaker, author, sits on several oil & gas boards and has one of the top oil & gas presences in social media.

~~~~~

### Data Quality – Integrity – Security – Cybersecurity And What You Need To Know

#### **Heather Stratford (Stronger International)**

**Description of Presentation:** Data quality is a core component of the reputation and success of a business in the oil and gas sector. Without the data quality, there is no integrity to the information. Cyber security is a key component of making sure that information is not tampered with or distorted in any way. Breaches in the industry can be for extortion, spying or for corrupting and changing internal data. Cybersecurity affects many areas of Oil and Gas.

Cybersecurity is one of the greatest changes and treats to the way the Oil and Gas Industry is operating and how they will operate in the next 10 years. The predictions in 2017 by Motorola Solutions claimed that, "cyber-attacks against oil and gas infrastructure would cost companies \$1.87 billion by 2018." We are currently tracking to above that mark.

The energy sector has seen the convergence of IT (information technology) and OT (operations technology) environments. Because of that shift there are new cyber and physical risks. New risks are created where network-connected end points, such as smart sensors, handheld engineer terminals and industrial routing equipment, are being produced and deployed. The world has changed.

According to the MMC Cyber Handbook 2018, "26% of the victims of cyberattacks are in the energy sector." And this is for both the small and large companies. No company is immune. A term for malware is "virus" because we know it can infect anyone. During an average month, a company like ExxonMobil

# Houston

## Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



now blocks more than 64 million emails, 139 million internet access attempts and 133,000 others potentially malicious actions. Malware and virus hit both small and large companies.

This presentation will review:

1. Current cybersecurity statistics and state of the oil and gas industry
2. Current attack trends in the US all industries
3. Current attack trends in the Oil and Gas industry
4. Data Integrity – Breaches can change data and your reputation
5. 8 Cybersecurity Threats Facing the Oil and Gas Industry.
  - a. Lack of Awareness and Training
  - b. Remote Work
  - c. Data Network Separation is Insufficient
  - d. Insufficient Physical Security of Data Rooms
  - e. Plant Shut down – Data Risks
  - f. Software Weakness – demand security information
  - g. Outdated control systems
  - h. Onshore and offshore Facility Connections

**Short Biography:** Heather Stratford—Stronger International, Inc. founder and CEO—is a thought leader in the Cybersecurity field. She leads a team of dedicated individuals who help organizations become stronger and more secure in this age of cyber threats. She has lead technology teams throughout her career, which has spanned the fields of publishing, manufacturing, technology, food services, contractor services, and transportation. She specializes in start-ups and young organizations and has launched two of her own international companies: Moxie Marketing, a technology integrator for the Marketing Industry, and Stronger International, Inc., a cybersecurity firm. Her educational background includes an MBA in International Management from Thunderbird School of Global Management and a Bachelor of Arts from Brigham Young University. She now specializes in cybersecurity and the impact it has on businesses of all sizes. Stronger International’s core business is working to make companies and organizations stronger across the globe. Heather is a technology influencer, helping organizations become more secure and compliant with the latest in cybersecurity tools and training. As cybersecurity regulations change and evolve, Heather consults with organizations helping them learn how to maintain their readiness and compliance. While cybersecurity is an exploding field, Heather maintains that it does not need to be an enigma and enjoys solving problems and finding the right solutions for each client. As a speaker, few can captivate and hold an audience’s attention better. Heather has keynoted cybersecurity conferences at Universities nationwide and speaks at organizations across the country. The breadth of her experience, along with her specialty in technology, enables her to bring new vision to complicated current events and their potential impacts on current business practices.

~~~~~

2:00-2:45pm

The Chevron Wiki and Data Foundations
Curley Thomas (Chevron)

Houston

Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



Description of Presentation: The purpose of the Chevron WIKI is to provide a digital data dictionary that can be leveraged by all the key systems of record throughout Chevron. The foundation for the data dictionary comes from the PPDM 'what is a well'. We also have created interactive training for our user community new to oil and gas using the WIKI as the foundation. We would like to discuss the evolution of the application and how it is being leveraged across Chevron globally.

Short Biography: Prior to joining Chevron, Curley worked for ExxonMobil, Hess and Noble Energy. He has worked in the oilfield supporting multiple petrotechnical applications both onshore and offshore. In his previous roles, Curley traveled throughout various oil-producing regions of the world, designing, developing, and implementing digital oilfield and workflow solutions in support of well planning and production optimization. Curley joined Chevron in 2017 as a Well Model and Data Standards Specialist within Chevron's IT organization. Prior to this role, he consulted with Chevron for several years in the Gulf of Mexico business unit on standardizing wellbore schematics, working on the Drilling and Completions Applications Projects (DCAP) team with the rollout of Wellview 10 and most recently as a SME on the cross functional Well Information Project (WIP).

Curley is actively involved with the Professional Petroleum Data Manager (PPDM) organization, where he has served as a contributor, panelist, and speaker. He has also given presentations at SPE, LIFE, P2 and multiple Peloton conferences. Curley also serves on the PRODML Executive Team for Energistics. Curley is married with four children and enjoys golf, traveling, and loves college football.

~~~~~

### **Well Planning Effectiveness Gained Through Business Process Analysis and Data Management**

#### **Kevin Brunel & Robert Best (Brunel Analytics & Infosys)**

**Description of Presentation:** In the current era of multi-well pad drilling and stacked plays, having accurate and timely data and efficient interdisciplinary collaboration is paramount for efficiency. This presentation covers the transformation of Devon's well planning process from one of manual steps involving hardcopies, paper documents and phone calls to one where multiple wells could be planned at one time in a collaborative environment with the key people being involved at the right time all with the best available data. This was facilitated by leveraging Business Process Modeling and Data Management principals.

**Short Biography:** Kevin's career in data management and data-driven software application development spans more than two decades. As a consultant, he spent several years providing business analysis, project management, and solution delivery management services to companies in the oil and gas industry, including ConocoPhillips/Phillips 66, Williams, Great White, and others. In early 2013, Kevin entered Devon Energy as a business analyst with Noah Consulting, kicking off the Engineering Data Management program. He joined Devon as a full-time employee later that year, and soon spearheaded the deployment of our Business Process Management practice, as Supervisor, BPM. In early 2016, Kevin took over the Geosciences Data Management teams, and is currently leading this diverse group in maturing Devon's Subsurface Data Management organization.

Robert has spent over 25 years in the upstream oil & gas software and Information Management consulting areas in a variety of roles. His oil & gas career began with the co-founding of Neuralog – a technology and service provider for E&P data capture. While serving as President, Neuralog steadily

# Houston

## Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



grew its customer base worldwide and developed operations in the US, Venezuela, Ecuador and Mexico. Robert currently serves as the Chairman of PPDM, an Association that promotes data standards, professional certification and a community of practice. Robert's career at Noah Consulting and Infosys has been focused on working with oil and gas companies to improve their operations by leveraging data and optimized processes.

~~~~~

The Future of Data Management: Analytics Will Become the New Normal

Christopher Frost (DataCo)

Description of Presentation: The digital landscape of the Upstream Oil and Gas industry is changing. Companies are beginning to realise the potential for applied Data Analytics, Machine Learning and Artificial Intelligence. Organisations seeking cost efficiency savings and a competitive edge are driving technology adoption, mindset shifts and faster returns on investments in technology recruitment and training. Mature tech companies, that have applied these analytics and techniques for several years, employ almost 7% of their entire workforce in Data Analytics. Our Industry, currently sitting at less than 0.2%, should expect an increasing reliance on these skill sets and will be in competition for talent with some of the most forward-thinking companies in the world.

The challenge for the oil and gas industry is how do we realise the potential value from our legacy, unstructured and often undiscovered data assets? How can we incorporate complex Data Analytics into our existing enterprise architectures? But more importantly, how can we prepare? The trend towards early data discovery, data wrangling and visualisation will introduce new skillsets, tools and processes to the Data Management discipline.

DataCo is leading a new wave of E&P Data Science and Analytics expertise, focussed on real world data and information challenges, working alongside forward-thinking customers and delivering pragmatic operational solutions.

Short Biography: Chris is an data analyst for DataCo with 8 years' experience. Mainly focussing on unstructured data, blending Data Engineering, Data Science, Cloud and Big Data technologies, Chris has consulted across several domains within the E&P lifecycle of the Oil and Gas business. Harnessing DataCo's subject matter expertise, Chris has built up a skilled and agile team, capable of delivering end-to-end solutions. DataCo was recently selected from over 70 companies to undertake the automated data conditioning and extraction for the OGTC's "Machine learning to identify hydrocarbon opportunities" project.

~~~~~

### Network Analysis of Oil & Gas Big Datasets

#### **Michael Raubach (Well Data Labs)**

**Description of Presentation:** As the amount of data available to oil and gas companies rapidly increases, new methods will be required to make these vast sets of information intelligible and meaningful. Network graphs present one possible strategy for visualizing and aggregating these large data sets, and can be used to disclose causal relationships between seemingly disparate information points. This presentation will provide a brief introduction to the basics of network theory and network graphs to demonstrate the potential for how these techniques and mathematical analysis tools can turn

# Houston

## Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



big data sets into value adding assets for an E&P company. This presentation will provide a walkthrough, interactive application of a network analysis on 240 wells completions and production data from the DJ shale play, and discuss possible use cases for this type of analytical strategy in larger corporate data science initiatives.

**Short Biography:** Michael Raubach is the Sr Sales Manager for Well Data Labs, a big frac data structuring platform. Prior to joining Well Data Labs he lived in Aarhus, Denmark where he was working as a fully funded European Union PhD Fellow at the University of Aarhus. His research there used Network models to study sociographic and cliometric data for the European Union "Horizon 2020" project.

~~~~~  
CPDA Certification: What it is, why I wanted it, why we need it, and how to sell it!

Shawn New (BHP – PDMCC)

Description of Presentation: In this talk, Shawn will explain CPDA Professional Certification and provide insight from his experience sitting the exam and why achieving the CPDA was an important personal milestone. He will explain how a renewed interest in formalizing the data management career ladder at BHP provided an opportunity to promote certification, and provide some tips on how to have this discussion with management. By showing the diversity of his and his team members' career paths, Shawn will also highlight why the Petroleum Data Management community needs CPDA!

Short Biography: Shawn New is our February 2019 volunteer of the month. Shawn has been a data management professional in the oil and gas industry for more than 20 years. He graduated from the University of Phoenix with a B.S. in Information Technology. Shawn is manager of Operational Data Management at BHP, where he has grown his career for the last seven years. In September 2018, after receiving his CPDA designation, he joined PPDM's Certification Committee. Since then, he has been a strong advocate, sharing the value of certification and working to make CPDA certification a key part of the data management career development path. In addition to his work on certification and career development, Shawn is participating in the Tier Two Review of the Well Status and Classification work and sits on numerous other professional committees.

~~~~~  
**Having Confidence in Data Quality Metrics**

**Volker Hirsinger (Petrosys)**

**Description of Presentation:** When combining automation and human expertise, how do you quantify data quality in a Master Data Management system? Ideally, only data of the highest quality would be eligible for residency in a Master Data Management [MDM] system, however this raises a number of questions. For example, is incomplete data better than no data at all? As interpretive data is a subjective assessment, how can you measure its quality? When significant volumes of data are being recorded, how can this potentially valuable information be made available to users as quickly as possible, without relying on human intervention? In many respects, data quality should be an objective assessment, made by the system, so can the MDM itself play a part in this assessment where it qualifies that assessment and categorises the data with visual indicators, ultimately to aid in its quality improvement? Our view is that whilst due process around QA of data being loaded into an MDM is

# Houston

## Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



important, it should not be relied upon exclusively, and the MDM itself should have inbuilt quality assessment. The MDM should be more open to accept data of dubious quality, provided it is flagged and published as such. Indeed, it should be published for all consumers to clearly visualise, as a driver to have that quality improved.

Quality metrics should be objective and systematic, but there needs to be a way to alter the business rules which are used to define that systematic rating, along with visualisation to show how data quality has changed over time, with clear representation of the impact of the change in business rules.

Furthermore, the system should allow for subjective assessment which may, in some cases, contradict the objective assessment because the business rules imposed are insufficiently complex to compete with real-world human experience and opinion.

**Short Biography:** Volker Hirsinger is an experienced petroleum industry information specialist with over 35 years of experience in geotechnical systems, data analysis, and business development. He has a strong understanding of the petroleum exploration and production lifecycle and an enthusiastic and forward thinking knowledge of relevant aspects of IT, backed up with practical experience gained from working with a broad client base. Originally trained as a structural geologist in London and Melbourne, his work has always brought him into situations where he has needed to find, filter and analyze data to extract knowledge, often in a PPDM environment. One of the founders of Australian software company Petrosys, he now lives in Houston managing the Americas operations of the company.

~~~~~  
3:00-3:45pm

Maintaining Geospatial Integrity by Implementing a Robust Framework

Nils Lundstrom (Geomatic Solutions)

Description of Presentation: With the explosion of desktop applications capable of viewing data in different ways and the increasing availability of data to desktop users, the need for combining data from different sources increase exponentially. A large share of the data, in the exploration cycle, is dependent on positioning and while satellite positioning is mainstream in today's environment, this cannot be said about most vintage acquisitions. Because of this, data is spatially referenced in many ways and to successfully combine data, applications need to be aware of the intricacies of the different coordinate reference systems. Many collections of CRS parameters exist, but a de-facto standard has emerged with the "EPSG registry" maintained by the IOGP. Adding to the complication is the fact that many companies maintain a catalogue of bespoke CRS for various reasons. This presentation proposes the introduction of a geodetic framework to increase quality of data-sharing and allow better decision support.

Historically, applications were not geospatially aware and, if by chance they were, the task of entering CRS parameters was assigned to data managers, data loaders or application champions. Most of whom did not have a geodetic background or solid understanding of what the parameters represent. This created a situation where different applications, even though they have the same parameters recorded, have very different names of CRS or where they by chance have same or similar names have different parameters. The mix of parameters and/or names affects data sharing between applications and in some cases may even cause mis-positioning of data. The presentation of non-unique nor qualified names to users risk incorrect selections and the, today, almost automatic data sharing and conversions/transformations will quickly make detections of incorrect selections and mis-positioning very

Houston

Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



difficult. To combat this, it is suggested to implement a robust geodetic framework within companies such that CRS names are uniform across applications, parameters are controlled and can be verified against a known truth and that data can be shared with 3rd party accompanied by metadata correctly describing its spatial reference. Such a geodetic framework is made up from three basic pillars

- a. A maintained and controlled CRS parameters registry acting as the company truth.
- b. A set of workflows defining how data is shared and transferred within the company.
- c. Basic training of users such that they have a minimum level of understanding of spatial referencing and how it affects their data.

Implemented correctly, a geospatial framework will serve users and enable them and management to make better informed decisions and ultimately increase company value and assets.

Short Biography: Nils Lundstrom is a geomatics engineer by trade and deals with all issues relating to geospatial integrity on a regular basis. Mr Lundstrom's interest in the subject is decade long and originates from the aviation industry with standards and guidelines. As such he was as an expert part of the original IOGP initiative Geospatial integrity of geoscience software – GIGS. He is involved in design and development of software maintaining and utilizing CRS catalogues in all geospatial aspects and he has recently concluded work for a large European E&P company where development of a single source CRS catalogue was key to project success. Mr Lundstrom is currently involved with several E&P companies implementing all aspects of geodetic frameworks as well as tools enabling increased automation and control.

~~~~~

### Well Milestone Discussion

**Trudy Curtis (PPDM)**

~~~~~

Capturing the Value from Mudlogs Using Crowdsourced Application Development

James Miller & Munira Gandhi (Anadarko)

Description of Presentation: "Mud logs" often provide direct evidence of hydrocarbons and have recently been used by exploration geologists to take a second look at drilled areas for overlooked or bypassed pay that can now be unlocked using new technologies. Extracting valuable information from mud logs has traditionally been a tedious and manpower intensive process due to their fairly unstructured nature. In an attempt to automate the extraction of key information from these logs and create structured databases, Anadarko has engaged Wipro/Topcoder to leverage crowdsourced development to build the needed technologies. The model used was to break the problem into smaller units of work and set up each unit as a separate crowdsourcing challenge. The winning solution used OCR methodology to extract and build a database of keywords and generate an LAS file of show quality. The algorithm has successfully been applied to approximately 50,000 raster mud logs in Anadarko's collection.

Short Biography: James Miller joined Anadarko Petroleum in 2001 and has worked there as both a geologist and petrophysicist. James currently works in Anadarko's Global Geoscience E&P Data Systems group as a subject matter expert and systems architect helping move Anadarko's rich geoscience data resources into digital formats.

Houston

Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



Munira Gandhi, Data Analytics Wipro Consultant, Crowd Program Lead at Anadarko. Munira is an AWS and TOGAF certified architect and leader with extensive work experience in oil and gas industry (15+ years). Munira has been in the information technology industry for almost 20 years with a focus on the software development lifecycle with comprehensive knowledge of product development.

“Dark Data” Analytics

Nishanth Raj & Vivek Anand (Deloitte Consulting)

Description of Presentation: Across organizations, there are several data repositories that are unstructured and not open for analysis. Only a few organizations have been able to explore non-traditional data sources such as image, video etc. – there are enormous troves of data in the unexplored “deep web”. That being said, many of the new advances in pattern recognition, cognitive & machine learning, computer vision etc. are making it possible for companies to shine a light on these unexplored sources and derive insights that lead to better experiences and decision making across the business. This paper focuses on leveraging some of these exponential capabilities to truly derive value and insights from the 'dark data'.

Short Biography: Nishanth is a dynamic, result-oriented leader with a strong and consistent track record of delivering extraordinary results in growth, revenue, and operational performance. His main area of expertise is in Enterprise Information Management & Supply Chain Management in the Oil & Gas sector along with additional expertise in the areas of business process optimization, systems integration, business intelligence and change management.

Vivek Anand is a Manager in the Strategy and Analytics practice at Deloitte Consulting where he specializes in building advanced data management solutions leveraging data science and machine learning. Prior to joining Deloitte, Vivek worked as a Principal Scientist at Schlumberger Technology Corporation and as Data Science and Analytics Program Manager at Riversand Technologies. Vivek has authored 20+ papers and 15 patents on applications of machine learning and artificial intelligence. He is the recipient of prestigious oil and gas industry awards including Society of Petroleum Engineers Formation Evaluation Award, World Oil Award and Society of Petrophysicists and Well Log Analysts Distinguished Speaker. Vivek can be reached at vianand@deloitte.com.

The Economics of Data Quality- A Case Study

Emile Coetzer (Chevron)

Description of Presentation: This presentation discusses the mechanics of developing a formal business case for engineering data quality. It explores both the cost of, and benefits to the enterprise, of engineering data quality. For the latter, it describes recently completed research to quantify the cost of poor quality asset data to an accuracy that is adequate for scrutiny during the assessment of formal allocation of improvement funds.

Most operators instinctively suspect or know their data quality is not good but cannot quantify the impact on their operations because the impact is both not immediately obvious and complex. The research described in this presentation developed a model for that calculation. Conversely, the approach selected to remediate data quality will have an impact on the economics, both in terms of direct cost and time to benefit. Combining these factors enables an economic case for data quality in a

Houston

Professional Petroleum Data Expo

April 9 & 10, 2019, Westin Houston Memorial City



defensible manner and a format familiar to the industry. The impact of technology and data standards also influence the value proposition. The case study was done in an operating asset on facilities data, but the methodology is scalable to other asset life phases and technical disciplines.

Case study results are even bigger than anticipated, so that serious executives cannot ignore them in our industry's continued drive towards internal efficiency. This paper is of interest to operating companies, regulators, engineering companies, standards organizations and data vendors.

Short Biography: Emile-Otto Coetzer M.Eng, P.Eng is an Asset Reliability Engineer with Chevron. His 35+ years career in Asset Management has seen him on 4 continents in both Operations and Major Capital Project environments. In that time, he worked as technician, engineer, manager, executive, consultant and advisor. His experience includes more than 6 oil majors, and time in the mining and nuclear sectors. He was involved with the development of ISO 55000, is on the Board of Directors of PPDM and is a scholar of data quality economics. He is passionate about real and sustainable improvement in our industry's safety, environmental and economic performance. He holds degrees in Mechanical and Industrial Engineering and a postgraduate management qualification (cum laude). He resides in California with his family, a motorcycle and a fly fishing rod, in no particular order.

~~~~~

### Importance of a Strong Foundation

#### **Mason Taylor (ConocoPhillips)**

**Description of Presentation:** A talk concerning the consequences of having a weak foundation for your analytics program and how a solid foundation enables those with unique perspectives to contribute in innovative ways.

**Short Biography:** Mason Taylor is a fresh face in the analytics space with a breadth of experience in various IT disciplines including Web Development, Cybersecurity, and IT Project Management. He is currently a Data Analyst in ConocoPhillips' Project Analytics team delivering full stack analytics solutions of many varieties.

~~~~~

Join Us After for the Expo Cocktail Reception!