Speakers Abstracts
October 22, 2019

8:00-8:30am

Welcome and PPDM Update

Trudy Curtis (Professional Petroleum Data Management 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.

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8:30-9:15am

Blockchain Innovation and the Data Revolution (Keynote Presentation)

Lewis Matthews (CrownQuest Operating)

Description of Presentation:

Short Biography:

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9:15-9:45am

A Digital Journey: The Transformation of the Oil & Gas Industry

Steve Cooper (EnergyIQ)

Description of Presentation: It is apparent to everyone within the oil and gas industry that there are significant changes underway being driven by the need to operate more efficiently with fewer people. A catalyst for this change has been the application of digital technology where a focus on data science and analytics has resulted in a real and significant improvement to overall business performance. While big data and analytics gets most of the attention, this is just one aspect of a broader movement that is popularly referred to as the Digital Transformation.

Over the last 12 months, the author has undertaken an extensive initiative to understand the key business and technology trends that are driving the oil and gas industry. Analyzing these trends has provided insight as to how they will impact oil and gas companies and how companies can adopt best practices to compete effectively in the future. Within these trends lies a story that is of interest to our entire industry.
In this presentation, the author addresses the following questions:

- What lessons have been learned from digital initiatives of the past?
- What are the key trends shaping industry today?
- What are the key components of a Digital Transformation strategy?

Based upon comprehensive research and analysis, the author makes the case that most companies do not realize the expected benefits from Digital Transformation initiatives because they do not take the time to build a solid digital foundation based upon data management best practices. The presentation provides a review of the data management best practices that successful companies are applying to lay the foundation for an effective Digital Transformation strategy.

Short Biography: Steve Cooper is the founder, President and CEO of EnergyIQ, a recognized leader in the oil & gas data management arena headquartered in Denver, Colorado. As part of EnergyIQ, he has developed a sophisticated Well Master Data Management platform that supports critical decision-making at many oil and gas companies today. He started EnergyIQ in early 2008 after 14 years at Petroleum Information (later IHS) with 5 years spent as the CIO. He is a past Chief Communications Officer and Board Member with the PPDM Association. Additionally, he has served on the Board of Directors for two publicly-traded gold mining companies.
Steve holds a Ph.D. in Automated Mine Surveying & Planning, Nottingham University, England and Bachelor's Degree in Mining Engineering from Nottingham University, England. He worked in several soft and hard rock mines upon graduating, but switched to the petroleum industry shortly thereafter, taking a number of classes at the Colorado School of Mines.
Steve has been published in numerous journals and has presented at industry conferences on subjects including data quality, governance, master data management, analytics and visualization. Recently, Steve joined the Data Analytics advisory board at Denver University and is an occasional contributor at the Colorado School of Mines

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9:45-9:55am

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10:15-10:45am

MDM & Agile – The Journey
Melinda East (Equinor) & Stewart Nelson (Infosys)
Description of Presentation: Is it possible in today's business environment to adjust to new ways of working in the energy industry through MDM implementation? We must deliver quick results with reliable data that is seen across the value chain, all the while impacting the company agendas of a digital future.

Utilizing work through PPDM and agile project framework, Equinor is proving it possible. Learn of the trials and tribulations throughout this accelerated journey.

Short Biography: Melinda East is the Head of DP International Data Office for Equinor. Her career in data began over 20 years ago, and has always been rooted in the energy industry. The last 7 years of her career have been in leadership roles shaping Information Management strategies and solutions. Stewart Nelson has partnered with numerous operators as a part of Infosys and previously as a co-Founder of Noah Consulting to design and deploy solutions which help our industry optimize business performance.

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10:45-11:15am

Don't Be Left Out: Use Your Data & Analytics Platform For Time-Series Data

Pravin Kadambi & Mohaptra Lalitendu Sahu (Infosys)

Description of Presentation: Time-Series data is the most important business data for many large O&G companies. Many of the organizations have extremely large volume of time-series data stored in legacy Historian systems for decades. Limitations of Historian Systems have forced organizations to consider Big Data and Analytics Platform for processing, analysis, and reporting of time-series data. But many organizations have expressed concerns in using their Data & Analytics Platforms for Time-Series data. In this presentation, we will talk about the need, importance, methods, solutions and examples of bringing time-series data onto D&A Platforms and how they have helped organizations around the world.

Short Biography: Pravin Kadambi has extensive experience in O&G field with companies like BP and BHP. He has in-depth knowledge on O&G Data and application – especially in Data and Analytics areas. Mohapatra Lalitendu S. Sahu leads the Data and Analytics Architects for O&G vertical in Infosys. He has helped Infosys' clients with Envisioning, Strategizing, Establishing, and Driving their Big Data, Analytics, and IoT Platforms On-Premise and On-Cloud for their Digital Transformation Programs.

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11:15-11:45am

Deconstructing Data Science

Marc Boulet (Cenovus Energy)

Description of Presentation: There has been a tremendous amount of hype that has emerged around the term "data science/analytics" in the last few years. Some of the technical advances surrounding data science are undeniable; however, often the conversation devolves into buzzwords, such as machine learning and artificial intelligence, with little regard to their actual meaning. The first part of the talk will deconstruct the hype and mythos surrounding data science by placing it in a proper historical context.

In fact, one can draw many parallels between this and another seismic technological shift that occurred a generation ago: computing. The widespread introduction of computers in the workplace was met with similar wonder, unrealistic expectations and inevitable doubt. In fact, computing did not deliver on its initial promises to relieve workloads and render offices paperless. It took several years (even decades) for computers to find their place, but I'm sure everyone would agree they are now a foundational aspect for all business models.

It can be argued that data analytics is at a comparably immature stage in the oil and gas industry that computing once was. From that lens, we can explore what aspects of data science will be more likely to stand the test of time or fade into irrelevancy. Based on that thought process, the second part of the talk will provide some guiding principles, from a practitioner's perspective, on how to prepare for the future and incorporate data science awareness and skills into your career development.

Short Biography: Marc is a data scientist and group lead for the Oil Sands Geological Information Management group at Cenovus Energy. He has spent the majority of his oil and gas career as an asset geophysicist for companies such as BP, Apache and Cenovus, working on a variety of plays in the WCSB. He transitioned into a data science role in 2017. Marc holds a BSc. in Geophysics from the University of Calgary and is progressing on an MSc. in Analytics at the Georgia Institute of Technology. Marc is also an active member of the local data science community as a co-organizer of the Untapped Energy and CalgaryR User Group meetups.

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11:45-12:10pm

Board Candidate Introduction

Please see the PPDM website for more information.

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1:00-1:45pm

Handling Large Data Flows: the Example of Distributed Acoustic Sensing

Philip Neri (Energistics)

Description of Presentation: The E&P industry has a long history of handling very large data such as seismic, or streaming data from active operations such as logging while drilling (LWD). Seismic data requires processing before being used in subsurface modeling and characterization, while real-time data is consumed instantly to assist e.g. directional drilling, but with data volumes that are manageable. New measurements in wellbores using fiber optic arrays generate terabytes of data per day, and one of their applications is to monitor producing wells, while also providing data that could be used for longer-term reservoir monitoring. This convergence of very large data volumes and near-real-time consumption is a fresh challenge to our industry. The packaging of very large datasets for efficient data exchanges and evergreen storage was part of the standards developed for subsurface modeling datasets. The solution adopted for that use case involved the use of HDF5 packaging standards to wrap together the hundreds of files of all sizes that are part of a subsurface modeling project, including well data, borehole geometry, maps, geobodies, geocellular models, reservoir characterization, properties, etc. However, the use of HDF5 to store large datasets from permanent recording systems proved to have limitations in accommodating complex metadata describing the content of the package, the acquisition array and other important information. An energy industry-specific implementation of the Open Packaging Conventions (OPC), a widely-used container file system, was therefore defined. Labelled the Energistics Packaging Conventions (EPC), this zip file provides XML searchable descriptors of all the files within the package and can also be used to reference multiple HFS5 packages. It is in the latter role that EPC is proving valuable,

notably for the increasingly widespread Distributed Acoustic Sensing data. With outputs of multiple terabytes of data per day, per well, recordings from a producing field largely exceed the transmittal capacity of most communication systems, so the data is accumulated in portable storage devices and transported to the end-user for reading, processing and storage. A single well will therefore have numerous very large files (15 TB each) corresponding to specific time windows, and for a given time window there may be different versions, e.g. raw data, Frequency Band Extracted (FBE) data or processed data. While the data exchange format does require some metadata in each HFS5 file to make it identifiable and potentially searchable if needed, once large amounts of files have accumulated over time the EPC file offers a much faster and more comprehensive environment to perform searches and locate specific data within a data collection of many petabytes. Examples of the implementation of DAS data will be shown.

Short Biography: Philip holds a B.Sc. in Geology and an M.Sc. in geophysics and computer science. After an early career as an explorer for Shell , he worked on geoscience software for Schlumberger, Elf, CGG and Paradigm, and data management at Enigma Data and Paradigm. More recently he has focused on product strategy and the alignment of data, science and software to the long-term objectives of oil and gas operators. He works for Energistics, oversseing the communication strategy for data exchange standards.

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1:00-1:45pm

Blockchain Enabled Reference Data System Promotes Interoperability

Harry Schultz (Oilware Inc)

Description of Presentation: Interoperability between software systems has been the goal of numerous standards organizations for many years, yet finding a solution remains a high priority. A common understanding of the organization or packaging of data is necessary, but not sufficient for true interoperability. The meaning of the data must also be shared and unambiguous. Well-defined sets of reference data are essential to a common understanding of data within and across organizations. There is no shortage of publicly available reference data from a variety of sources, but few are compatible and complete translations between them are nonexistent. Today, every organization manages their own collection of reference data which may or may not be consistent within their organization. Common sets of reference data for exchange between organizations are rare, and in many cases, operators receive exchange sets containing undefined reference values. Reference data is a process, not an event: The scope of reference data (domains, standards, entities) is ever expanding, and reference data is subject to ongoing change (corrections, consolidations, refinement, aliases, etc.). This is a huge problem which has yet to be solved effectively. An opportunity exists: if we can build a secure reference data commons and align incentives in a way that mutualizes the data curation effort across the industry, then the petroleum industry can maintain a single, accurate set of reference data that the entire industry can use. Although this market need has existed for many years, the advent of blockchain technology provides the tools to build this shared data resource. At its core, a blockchain is a machine for creating trusted data. In a blockchain, a distributed group of entities (competitors, partners, value chain customers and suppliers) all have a copy of a shared database. These copies are kept in sync through a consensus mechanism that ensures that only information the community agrees is correct gets written and replicated to all the copies
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of the database. Finally, through the encryption of periodic, time-stamped snapshots of that database (the "blocks"), everyone in the community can trust that the information they are seeing is correct, secure, and identical to what everyone else is seeing. TruSet and Oilware are collaborating on a Petroleum Reference Data System (PRDS) that will manage reference data as it is used in practice, not create "yet another standard." The PRDS will aggregate, correlate, and integrate officially established standards, with producer defined reference data, customer reference data, and customarily accepted identifiers and aliases to form the foundation for trusted reference data for the petroleum industry. In the PRDS, participants will be authorized for one or more of three primary activities: • Publish: Propose new, corrected, or updated reference information to the community. • Validate: Review reference data proposals and vote to accept the submissions. Only data that the community agrees to accept is added. • Consume: Use the community validated reference data in mission-critical systems. Shared reference data is crucial to software interoperability. Blockchain technology enables the PRDS to be the trusted global reference data repository.

Short Biography: Harry is President and CEO of Oilware, Inc. which he co-founded in 1986. He has been an active participant in standards development since 1989. Oilware specializes in software development, media/data conversion, and data management products. Will is the Founder and CEO of TruSet, a leader in blockchain technology for data management. He has over 15 years of experience in financial markets and reference data management. He holds degrees from Stanford University and Yale.

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2:00-2:45pm

Of Chaos and Order: Data Standards, the IOGP and PPDM

Emile Coetzer (Chevron)

Description of Presentation: The presentation reports on current efforts to bring a measure of focus and alignment within the complex and dynamic area of data standards in the for oil and industry. It begins by describing the current landscape and some of the challenges of that landscape. This is followed by a description of a drive by the IOGP to facilitate prioritized development and implementation in this landscape, and reports on the status of that drive. Next, the presentation touches on the impact of data standards on digitalization and the role of infonomics. Finally, a number of implications for PPDM are explored.

Short Biography: Emile-Otto Coetzer M.Eng, P.Eng is part of Chevron's reliability engineering community. His 35+ years career in Asset Management has seen him on 4 continents in both Operations and Major Capital Project environments. His experience includes a number of oil majors, and time in the mining and nuclear sectors. He was involved with the development of ISO 55000 and serves on the Board of Directors of PPDM and the Information Standards Subcommittee of the IOGP. He is passionate about ethical, real and sustainable improvement in our industry's performance, and views engineering data quality as a key enabler. As a result, he is a scholar of what is now being called Infonomics. He holds degrees in Mechanical and Industrial Engineering , a management qualification and an RBI certification. He resides in California with his family, a motorcycle and a fly fishing rod, in no particular order.

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2:00-2:45pm

Holistic Subsurface Digital Transformation – Technology Alone Isn't Enough.

Christopher Hanton (Ikon Science)

Description of Presentation: The utilization of new to industry digital technologies to improve workflow efficiency and maximize production is currently one of the hottest topics in the industry. Countless case studies and presentations exist which show how adoption of this technology improves results and derives new value. However, for many companies who are yet to take control of their data, the real question is – where do I start? Powerful technology and directives from senior management can initiate transformation but the actual processes to deliver a successful solution that meets business needs requires company-wide awareness and buy in. The project management aspect of a digital transformation project cannot be understated and this process begins long before the installation of any applications or implementation of any workflows. This presentation focuses on refining what the digital transformation revolution means for the subsurface discipline. It then highlights those steps that must be taken both on technical and management levels to ensure a successful implementation. Case studies illustrate both successful and failed implementations and highlights the lessons learnt from both scenarios.

Short Biography: Chris' career began as a mudlogger in the UK sector of the North Sea before relocating into the office as a consultant petrophysicist working on projects from around the globe. This experience of both acquiring and utilizing subsurface data has provided invaluable insight when it comes to working with multiple operators and service companies to develop data strategies for the betterment of the industry as a whole. Chris currently oversees the data solution offerings from Ikon Science

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October 23, 2019

8:00-8:30am

Welcome and PPDM Update

Trudy Curtis (Professional Petroleum Data Management 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.

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8:15-9:45am

Innovation Panel Discussion

TBD

Description of Presentation:

Short Biography:

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10:05-10:35am

Learnings from Other Industries: MDM Trends for Energy that Transcend Verticals

Tarun Chandrasekhar (Riversand)

Description of Presentation: Oil and Gas has seen many trends in data management that have found success in other industries: cloud computing, post-relational databases, multi-domain data management. This presentation focuses on what have we learnt from other industries, what has been successful and some new trends that have been changing master data management in Retail, Manufacturing, Distribution and other verticals

Short Biography: Tarun is an information analytics thought leader with extensive experience in the energy industry across technology, data management, GIS, and data analytics. He is currently the senior vice president of New Verticals at Riversand Technologies, a market leader in Cloud-native Master Data

Management (MDM) and Product Information Management (PIM). Tarun held executive and management positions at Drillinginfo, BP America, Neuralog, and Esri. His career spans product development, data management strategy, consulting, and project implementations in oil and gas, health care and transportation sectors in the US, Europe, Venezuela, Mexico, Singapore, and India.
Tarun has worked closely with PPDM since 2006 and has been a frequent speaker at various PPDM events in Houston, Calgary, Denver, Oklahoma City and Venezuela. He worked with the PPDM leadership to promote standardization in North America, South America, Middle East, and South-East Asia. As Chairman of the Esri GIS Petroleum User Group, he promoted PPDM's work on plot symbology. At Drillinginfo, Tarun was instrumental in ensuring their data model was compliant with PPDM standards.
Tarun is passionate about solving real-world problems with innovative software products and solutions. He holds a master's degree in Urban Planning and GIS from University of Illinois at Urbana-Champaign.

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10:25-11:05am

Implementing ELT, Master Data Management, Data Warehouse and Analytics in 9 weeks. Is it really possible?

Mindy Stone & Branden Salis (Centennial Resources)

Description of Presentation: Delivering a business ready end to end data management solution has historically caused challenges across our industry. Success is measured by a number of factors such as cost, efficiency gains, reduction of errors, business benefit and time to deliver. Success is not achievable without combining clear strategy, strict governance, defined scope, executive buy-in and the right technology. But it's not impossible as we have found. As a rapidly growing operator, our business requires more data, faster access to data, greater dependency on accuracy of data and this year we have delivered a business driven solution to our various groups. This presentation will cover what we've done in the past and how a complete change in direction has enabled us to deliver full capabilities in just 9 weeks.

Short Biography: As Analytics and Applications Manager at Centennial Resource Development, LLC, Mindy and her team are responsible for all aspects of analytic development, application support, and strategic data implementations for the company. Before joining the Centennial team, Mindy was a co-founder and CTO of Blue River Analytics where she worked with over a hundred oil and gas companies to build analytic tools and help them get the most value out of their data. Prior to starting Blue River, she worked on the reservoir engineering team at Forest Oil. Mindy graduated with a B.S in Biology and Chemistry and minor in Statistics from the University of Denver. Mindy also holds a Master of Science in Computer Information Systems with a concentration in Business Intelligence and Database Management from Boston University.
Branden Salis is an experienced IT professional and Database Developer based in Denver, CO. Between starting his career at Forest Oil Corporation in 2008 and his current position at Centennial Resource
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Development he has served multiple roles both in and out of the oil and gas sector. Previous to Centennial, Branden worked at both Quantum PM and Charles Schwab. His vast technical skills stems from a Bachelors in Mathematical and Computer Sciences degree from Colorado School of Mines. When he isn't working he enjoys game development in Unreal Engine 4 and playing with his 3 Australian Shepherds.

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11:05-11:35am

Please, Stop Selling "Data Management..."

Ron Clymer (EPAM Systems)

Description of Presentation: "Please, Stop Selling "Data Management..." After years of seeing the same types of data management presentations at conferences and luncheons, Ron Clymer has had enough! Why is it, in pursuit of data management and breaking down silos do we as data management professionals commonly find ourselves creating more silos, or reinforcing existing silos? Ron Clymer, a Upstream Business Consultant with EPAM Systems, takes a broad look at how Oil and Gas companies have fallen short realizing the enterprise value of data management initiatives during the hype of data management, and find still themselves struggling to capitalize on the new hype in town, "advanced analytics" and "machine learning". In a current function focused organizational structure, we data management professionals tend to find business capabilities whose scope tends to mirror that of the implementing department's purview. We then end up buying commercial solution products that are marketed towards our organizational segmentation, providing solutions around monitoring data governance, automating business process, monitoring data quality, integrating systems, or mastering enterprise business objects. However, the value of these initiatives is seldom realized, as they are implemented in a way that supports the immediate function's role in the organization, rather than supporting the broader value chain's processes and goals. Meanwhile, In the current commodity pricing environment, data management teams struggle to compete for CAPEX project funding to pursue data management capabilities as competing initiatives appear to have a more tangible value proposition. If data management has an inherently abstract value proposition, the real question is, how can you sell your value proposition to leadership?

Short Biography: Ron Clymer has 9 years of upstream oil and gas domain experience, specializing in enterprise subsurface data management, business life cycle, solution development and enterprise capability enablement. He currently serves as a Senior Manager of Business Consulting for EPAM Systems upstream oil and gas practice and has served as the Subsurface Data Management, Process and Governance Lead at Devon Energy Corporation, where he established the subsurface data management practice, developed a proprietary full life cycle enterprise subsurface master data system, and lead a culture of innovation, integration and collaboration between the engineering, geoscience and reservoir communities. As a member of PPDM and SPWLA, Ron has presented and authored multiple white papers on executing and evolving subsurface capabilities for the enterprise in global upstream forums such as PPDM, PNEC, SPWLA Data & Analytics, and the Landmark Innovation Forum (LIFE). Ron holds a Bachelors of Fine Arts from the University of Oklahoma.

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12:45-2:15pm

Professional Development Committee Workshop

TBD & Margaret Barron (Professional Development Committee)

Description of Presentation: As part of this year's Symposium, the Professional Development Committee (PDC) of PPDM proposes to host an hour and a half workshop. The PDC group focuses on initiatives including the development of standards for data management job descriptions, career path recommendations, compensation data, and a centralized repository of educational and professional development opportunities. This Committee is essential to not only the development and maintenance of the PPDM job standards, but also to ensure that we are continually revising and being abreast of the everchanging job roles in our companies around the Globe. One way in which we are focusing on this endeavor is through the Job Family Grid, with role definitions and descriptions.

This workshop will concentrate on the "current" Job Family Grid, role definitions and job descriptions, (and possibly competencies) for seven job roles. During the workshop, each table of participants will be given a data job title/duty and each group will network and discuss the applicability of the job role within each criteria to determine if the roles are properly assessed and if there are any additional changes which need to be made. A brief wrap-up will further educate the participants with a brief summary of the findings of the group.

We will also provide a high-level overview of some recent data collected through a recent job-specific "Compensation Survey"!

PPDM's continual global outreach utilized through the Compensation Survey is a part of the organization's role in being the premier educational development group and leader for professionals working in this discipline in the oil and gas industry.

This survey embodied critical research and is the first of two surveys aimed to capture global compensation data and *role responsibilities* to help us articulate our current job roles and potential career paths.

Short Biography: Margaret has worked in education and training for over 25 years. Her experience as a Director/Manager in post-secondary education (Arctic College, Memorial University of Newfoundland, University of Alberta and the Qatar Project for Higher Education), combined with her leadership for groundbreaking petroleum industry education and training initiatives, uniquely positions her to succeed in both arenas.

Throughout her career, she has been privileged to contribute to the growth of many new academic programs and industry initiatives to develop and grow professional education and training for various petroleum disciplines. Her work with the PPDM is focused on advancing the professional discipline for petroleum data managers.

Margaret has also worked overseas in the UK, Qatar, and Guyana, and has conducted research in South Africa, the UK and Canada.

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12:45-2:15pm
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TBD
TBD
Description of Presentation:
Short Biography:

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2:15-2:45pm

Using AI to Automate the Geophysical Entitlements Process

Sue Carr & Trish Mulder (Katalyst Data Management)

Description of Presentation: Entitlements dictate the use and terms of how corporations can use data. Using seismic data for which your company is not entitled to use carries potentially very large litigations that could run in the millions of dollars. In order to mitigate risk and increase asset value, your organization must properly understand data; the ownership of the data, how you got the data and what you can do with the data entitlements.

Historically, validating ownership and entitlements is a very manual process, often relying upon poor quality contract information and metadata. We have identified a workflow that we believe we can facilitate an improved entitlement process. Using metadata that is captured into a PPDM database in conjunction with AI tools, much of the validation process can take place automatically, thereby minimizing the ownership cycle and more efficiently securing asset protection.

Short Biography:

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2:15-2:45pm

Mantras for a Successful Data and Analytics Platform Initiative

Pravin Kadambi & Mohaptra Lalitendu Sahu (Infosys)

Description of Presentation: In the last decade, almost every organization has charted its Big Data journey in order to modernize their operations, directly/indirectly monetize their data, smoothen operations, decrease loss, explore new business areas, and increase profit. The reality is that most organizations have not been able to realize the promised benefits – this is especially true in the Oil and Gas Industry. Teams across companies have struggled to run their Big Data platforms and whatever minor benefits that they have accrued is negated by the high costs of the complex implementation. The biggest reason for failure to achieve returns from the BD&A investments has been the lack of clear vision for Big Data. Five mantras for success are: 1) Focus on Business use cases 2) Right skill, 3) Fix gaps in architecture, 4) Mature operating model, and 5) Less internal politics. In this presentation we will talk about why Big Data and Analytics initiatives fail and how to build and run a successful BD&A program.

Short Biography: Pravin Kadambi has extensive experience in O&G field with companies like BP and BHP. He has in-depth knowledge on O&G Data and application – especially in Data and Analytics areas. Mohapatra Lalitendu S. Sahu leads the Data and Analytics Architects for O&G vertical in Infosys. He has helped Infosys' clients with Envisioning, Strategizing, Establishing, and Driving their Big Data, Analytics, and IoT Platforms On-Premise and On-Cloud for their Digital Transformation Programs.

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3:00-3:30pm

Data Model Update

Trudy Curtis, PPDM Association

Description of Presentation: An update on what is happening with the PPDM Data Model.

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3:00-3:30pm

Building Digital Solutions

Tamer Salama (Cenovus Energy)

Description of Presentation: Software is eating the world and software development is now making its way into the daily activities of many professionals. Coding is now used to streamline workloads, automate mundane tasks, solve computationally challenging problems, discover more value or gain more insights into available data.

This session is to introduce software components, tools and processes involved in developing digital solutions. At a high level, we'll try to demystify how modern applications are built, what structure they adopt and what components they rely on.

We'll touch on wide-ranging topics including:

- Web application structure
- Database engines (Relational, NoSQL, Graph, Big Data, Search Indexers)
- Coding languages, libraries & environments (R, Python, Ruby, etc.)
- Interfaces (Browsers, Mobile, PWA)
- Version control, agile practices and code quality
- Database clients, Integrated development environments
- Cloud

Short Biography: Tamer Salama is a senior technology professional with 15+ years of experience in designing, implementing and delivering diverse solutions, decision support and information management systems in multiple industries. His most recent experience has been focused on building solutions to further the use of data science and machine learning in addressing business challenges. He's passionate about software and data engineering, solution delivery and maintainability, and user engagement. Tamer Salama holds a Master of Science degree in Information Systems from Northeastern University (Boston, MA) and a Master of Science degree in Advanced Mechanical Engineering from Imperial College (London, UK).

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3:30-4:00pm

Digitizing Wells to Generate Real Time Data, Analytics and Optimize Completions

Shane Cassell (Cold Bore Technologies)
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Description of Presentation: For many years, the drilling industry has been correlating multiple data sources in real-time so the drillers can determine how to drill the well, in addition to generating actual time log data that enables appropriate payment transactions. However, this is not the case for completions, which has fallen behind in utilizing multiple data sources, and sensor-driven and time log data to support tracking, analytics and payment transactions. Generally, disparate completions data is still being collected individually and submitted to the producer for review post-completions operation rather than in real-time. This type of data collection results in missing and or broken streams of data that cannot be used properly to evaluate and or modify project, engineering or safety processes – especially in real-time. Data which cannot be used correctly creates ineffective employees and time management. With onshore completions operations costing on average USD $5-10K per hour, it is critical to account for every second of the operation and to understand what is occurring, the duration, and the cause and effect. The first digital completions recorder and operating system known as SmartPAD is presented. It is a remote system, that enables access and visibility of the operations data and work flow overview, in real-time. It normalizes the different data types from various service companies (coil, wireline, frac, flowback, etc.) and displays this data in real-time, on a dashboard, so it can be instantly monitored. Collected data sources are auto-populated into programs such as WellView and there is a frac engineering software overlay. Every second of the completions operations is recorded and time-stamped along with the detailed context necessary for a complete understanding of the chronological chain of events. This enables comprehensive tracking of both Productivity Efficiency Gains (PEG), Scheduled Operations and Non-Productive Time (NPT) - all critical aspects to track and identify. When all time, data, and operational changes are tracked to the second, a new opportunity arises for the companies working onsite. And the challenge of different service company data formats onsite will no longer be an issue so operators can now modify and create new processes based on the correlation of their data. Customer Case A: More Detailed Understanding In the past, operators have not been able to collect completions data on a granular level. They have had to group many different processes into a larger category as they were unable to track each of the different smaller processes and related details. Being able to classify Productive, Scheduled Operations and Non-Productive Time down to the second is now changing how they are labeling their time blocks. One of the largest US operators in the Permian Basin, is using the system and is now able to create more specific categories for individual operations which helps them identify, track, analyze and better understand occurrences. They can now look back at their timeline in chronological order to see how one event affects the next, which was not possible before. Customer Case B: Real-time Insight into Fracing Operations One instance of the benefit of having the valve positions tracked occurred with a client recently when a wireline unit had left a set of perforating guns downhole. The wireline had the appearance of being cut and it was assumed by the crew that it had occurred as a result of the wellhead valve closing on it. Our client was able to look back at that exact time frame in the SmartPad system data and determine that the valves had not actually been moved at all, that the valve was still open, and that the tools had been mistakenly left downhole by another cause. Customer Case C: Optimizing Engineering Processes and Reducing Time Tracking and reducing well switch time is a universal goal of many operators. On multi-well pads during fracking operations many time-consuming well switches are made to keep operations running continuously. Because so much time is spent during a fracking program on well switches, it is extremely important to track it in order to help reduce the amount of time required to switch over well operations. One of our clients who is an operator in the Duvernay in Alberta, needed to understand exactly how much time they

were spending on well switches, rather than relying on estimated time spent and personnel manually timing them. After using the system on many consecutive wells and pads, they discovered that their well switches were often taking up to 45 minutes or more which was 2-3 times longer than expected and much more costly. They needed to reduce this time and by tracking all their processes and associated time they identified inefficiencies in their programs and determined how and where they could improve. As a result, they were able to reduce their average switch time down to an unprecedented 12 minutes, which collectively, has saved them hundreds of thousands of dollars in that one process improvement alone. Customer Case D: Safety: An operator, avoided a potential catastrophe recently when they had a situation where two rig hands were using a hammer and pipe wrench to try and open a valve that they mistakenly thought was frozen shut. There was an attached pump line, which was presumed closed, and not under pressure. However, the valve was not frozen shut and alarmingly, it was actually in use with more than 6,000 pounds of pressure! Due to the real-time valve position and pressure display with SmartPAD system, the foreman was able to quickly identify that that the valve was fully pressurized, and he immediately alerted the personnel to cease activity and evacuate the hot zone. The real-time data display created visibility and helped avoid a possible serious incident. In conclusion, the most significant benefit of this system is moving the completions operations from generalized, manual and subjective data capture to granular and automated data collection which will provide analytics and reporting that are generated by the system in real-time. This will help optimize unconventional completions operations, reduce costs and increase visibility and safety.

Short Biography: Shane Cassell is a 17 year veteran of the oil & gas industry where he has spent the majority of that time focused on managing and selling products to the completions market in Canada. He has helped launch and implement new technology into the Canadian & US Markets for companies such as Stinger Wellhead, Tartan Controls and now Cold Bore Technology. New and innovative product introductions have always been the greatest accomplishment in his professional career.

Shane started his career in Northern Alberta on the service rigs and then quickly moved into management and sales. He joined Cold Bore Technology in April 2018 and is now responsible for sales and project management.

He has been a Volunteer with the Okotoks Petroleum Association and chairs the Annual Okotoks Curling Bonspiel.

Cold Bore Technology is based in Calgary, Alberta and is a Corporate Member of the PPDM.

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4:00-4:15pm

Closing Remarks

Trudy Curtis (PPDM Association)

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