

DSATS Meeting, Nov. 10th, 2011, Teleconference, 8:30 to 9:30 am

Agenda

1. Feedback re DSATS at ATCE Denver (all)

Feedback on the Sunday meeting in Denver, feeling was that a good turnout was achieved, indicating a strong interest. The completion side is somewhat struggling with automation, where the drilling group was some years back. Participants felt it was a worthwhile effort and result.

a. Panel discussion

There was a discussion on the effectiveness of the panel discussion, as always it directly depends on the quality of the panelists. An idea to plant questions in the audience to ensure active discussions. It was suggested that better planning on the timing of the session to ensure that people arriving can plan to attend.

b. Demo

Four machines all connected and communicated, served the purpose very well to show what we have learnt.

c. Communications Team Update (Clint Chapman)

An active discussion on the communications protocols developed. The use of OPC UA being discussed in detail, if more details on this discussion suggestion to contact Clint Chapman

2. DSATS Europe Update (Fionn Iversen)

a. IEEE I2MTC

Status call for papers for Special Session:

Text for email blast distributed to DSATS member for further distribution. Deadline moved forward to November 20th. DSATS Europe team will be participating in evaluating papers. Not yet determined how many sessions (presumably 1-2). We should start thinking about appointing session chairs (one for each session).

Status tutorial:

Plan accepted by conference committee. Downton currently coordinating contribution from DSATS Europe member and possibly COMMS team. Current plan (as suggested):

9 x 30 min slots:

- 1) Introductory overview of drilling as a measurement, control and communication problem (one 30 mins. slot)
- 2) Measurement and sensor enablers for the automation of drilling (one 30 min slot) – could be aligned with our DSATS communication initiative (Team ??)
- 3) Sensing and measuring the rock, the fluid, the environment and the drilling system at different length and time scales – kilometers to micrometers – days to sub-

- microseconds (five four 30 min slots) (Team Geoff + John +Fionn(IRIS)+others)
- 4) Powering sensors and communicating measurements over different length scales – intra BHA to global networks including data storage and communication between systems (one 30 min slots) (Team: Fionn + Geoff + others)
- 5) Reliability of measurement sensor systems under extreme drilling environments (three one 30 min slots) – could be aligned with our DSATS on reliability (Team John + Geoff+ others)
- 6) Panel Session on how I2MT can make drilling more sustainable (one 30 min slot) (Suggest tutorial presenters sit on panel)

Tutorial material to be made accessible through DSATS / IEEE sites.

Use of commercial videos under careful consideration.

More contributors to the tutorial are welcome – get in touch with Geoff.

Status keynote:

Prof. Varenholt has declined after careful consideration. Macpherson is currently approaching JoAnn Milliken, Program manager for the geothermal technologies program, US DOE.

b. IFAC 2012 Trondheim

No new info.

c. European University Involvement , Academic/Industry Forum on Automated Drilling (AIFAD)

Work ongoing for setting up Forum. Macmillan has been in touch with Professor Marian Wiercigroch at Aberdeen University regarding setting up such a forum, who is offering to help in setting up the forum. The following participants have been suggested/contacted:

- Univ. of Leoben
- Ecole de Mines de Paris
- Univ. of Stavanger
- NTNU in Trondheim
- University of Aberdeen (modelling and analysis of complex interactions in the drill-string, innovative drilling technologies): Profs Marian Wiercigroch and Michael Thompson, Drs Ekaterina Pavlovskaja and James Ing
- University of Minnesota and CSIRO (modelling of the rock mechanics): Prof Emmanuel Detournay,
<http://www.ce.umn.edu/directory/faculty/detournay.html>">[http://www.ce.umn.edu/di](http://www.ce.umn.edu/directory/faculty/detournay.html)
[rectory/faculty/detournay.html](http://www.ce.umn.edu/directory/faculty/detournay.html)
- TU Eindhoven (control and simulation): Prof Henk Nijmeijer,
<http://www.mate.tue.nl/mate/showemp.php/953>">[http://www.mate.tue.nl/mate/sho](http://www.mate.tue.nl/mate/showemp.php/953)
[wemp.php/953](http://www.mate.tue.nl/mate/showemp.php/953)

- TU Hamburg-Harburg (parameter identification): Prof Edwin Kreuzer, <http://www.tu-harburg.de/mum/mitarbeiter/prof-dr-ing-habil-prof-eh-edwin-kreuzer/biography.html>"> <http://www.tu-harburg.de/mum/mitarbeiter/prof-dr-ing-habil-prof-eh-edwin-kreuzer/biography.html>

We should decide how to move forward on this. What is proposed is setting up a Forum at some location in Europe for subsequent follow-up through net-based meetings.

3. Risk & Reliability (John de Wardt)

JDW was not present so no updates on this activity.

4. IADC and DSATS Standards Workgroup (Fred Florence)

Fred indicated that it will be Jan 2012 before any real effort will be started.

5. University Competition Update (Fred Florence)

Due to Fred's travel schedules no movement on this subject. Looking for volunteers to help!

6. Events Update

John de Wardt Session on Drilling Systems Automation:

Largest room, Wed pm – Mario and David

March 5th DSATS session – now joined with IADC ART as per Amsterdam this year

4 speakers – 1 hr each with questions (not a panel)

- Mike Withers – VP Ride Engineering Disney – Automated Ride Development in High Safety Environment
- Bertrand du Castel - Fellow Schlumberger – The Drillers Brain
- Pieter Abbeel – Professor Berkley - Apprenticeship Learning for Autonomous Flight
- Invited - 5 D Robotics – Autonomous fighting vehicles that operate without GPS

Reception Sponsor – Integrated Drilling Equipment

IFAC Workshop, May 31 to June 1, 2012, Trondheim

www.ifac-oilfield.no

Fionn Iversen

Workshop is possibly a misnomer, it is more a symposium based on papers. The planning is coming together through the mechanism of emails and teleconferences. Deadline for abstract (extended) submission is 1st Nov. 2011 with acceptance being notified by 15th Feb. 2012.

IEEE I2MTC conference, May 13 to 16, 2012, Graz, Austria

www.imtc.ieee-ims.org/

Fionn Iversen

It is planned to develop a session on sustainable energy including geothermal and drilling. It is also planned to co-chair the sessions) with IEEE. Focus on down hole and surface measurements. Gerard Thonhauser has been nominated as point of contact. A list of potential keynote speakers has been identified with expertise in sustainable energy projects. A paragraph on the meeting will be posted on the DSAT web site. A discussion developed on the procedures to ensure that papers from the oil& gas community would meet the technical rigor expected in

IEEE conferences. Side note from this discussion; an extended abstract would have ~ 4000 words were as a paper normally has ~ 7000 words.

DSATS sponsored SPE Advanced Technology Workshop

John de Wardt Kick Off meeting held, co-chairs are John de Wardt, DE WARDT AND CO; Michael Behounek, Apache; Clinton Chapman, Schlumberger.

9 committee members plus scribe – chasing more from outside oil and gas

Title and abstract done – out for review

Brainstormed sessions – have an outline but needs more work in center sections

Location probably in Vail, Colorado (SPE advised best offer for hotel size and price) – July 2012.

7. Other Business

Fred Florence working on IADC article plus articles in JTP & Drilling Contractor at same time

Minutes taken by Tom Geehan