Webmaster Update

Philip Harbidge



Speaker Information

- Independent Consultant
- 18 years Oil and Gas industry experience
- University of Newcastle Upon Tyne M.Sc.
- Kuala Lumpur, Malaysia based
- Specialist Subjects
 - Wellbore Placement
 - Anti-Collision
 - Oil and Gas Drilling Project Risk Management



The Industry Steering Committee on Wellbore

Survey Accuracy (ISCWSA)







Greetings from the Industry Steering Committee on Wellbore Survey Accuracy (ISCWSA), affiliated with the SPE Wellbore Positioning Technical Section

The 45th general meeting of the ISCWSA will be held in the World Forum venue, Churchillplein 10, 2517 JW, The Hague, The Netherlands. The meeting is held in conjunction with the SPE/IADC Drilling Conference and exhibition which is hosted by the same venue. Please click on this link to register online.

The main meeting will be held on Friday, March 17th, with sub-committee meetings held March 15th and 16th. If you are a member of a sub-committee, we will be grateful if you can plan to attend. If you are interested in serving on a committee, contact the sub-committee chairperson. A contact list is available on the ISCWSA sub-committee tab.

If you or your organization can offer sponsorship for portions of the meetings (such as coffee breaks, lunches, meeting rooms etc.), please contact Son Pham, ISCWSA Chairperson. We are indebted to the many past sponsors who have contributed to sustain our technical community work which has been running for over 20 years and we look forward to continuing our good work for many years to come.

> Best Regards, The ISCWSA Committee





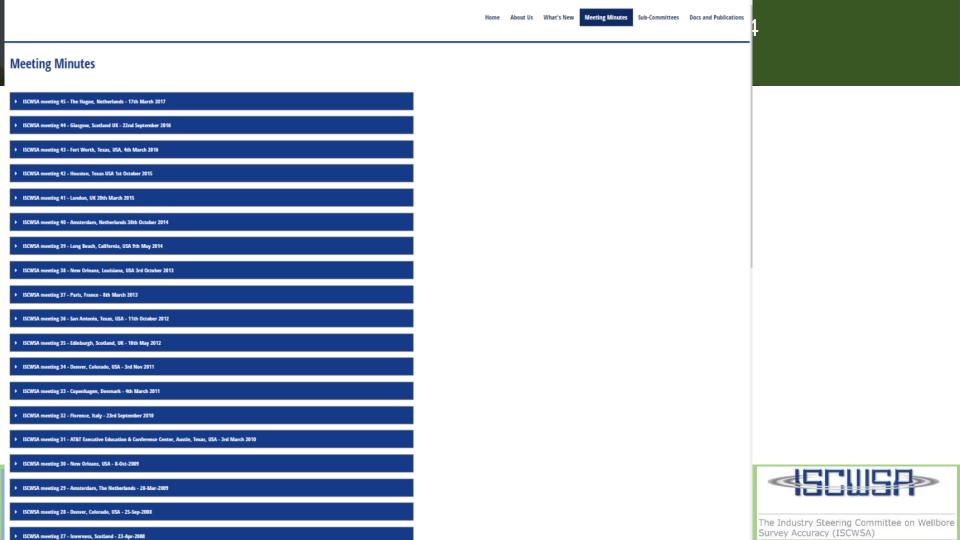




Elected ISCWSA Officers

Sub-Committees

Docs & Publications



Meeting Minutes

- ISCWSA meeting 45 The Hague, Netherlands 17th March 2017
- ISCWSA meeting 44 Glasgow, Scotland UK 22nd September 2016

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ISC44 minutes
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- 00_ISCW44_MeetingProgram
- 01_ISC44_SonPham_Conoco_Phillips_Introduction 02_ISC44_JonathanLightfoot_Oxy_ProgramOverview
- 03_ISC44_LenDuncan_MagVar_Past-Present-Future
- 04 ISC44 CiaranBeggan BGS-GeomagModeling
- 05_ISC44_SteveSawaryn_Independent_Consultant_Collision_Avoidance_Subcommittee_update
- 06_Updated ISC44_JonBang_Gyrodata_Combined_Wellbore_Surveys_IPM_SPE178826
- 07_ISC44_GiorgioPattarini_Stavanger_Uni_MagneticMud
- 08_ISC44_PatrickAlken_NOAA_GeomagModeling
- 09_ISC44_Prof_Giles_Hammond_Gravitational_Physics_Glasgow_Uni

11_ISC44_AndyMcGregor_Tech21_ErrorModelCommittee_update

- 10_ISC44_Prof_Angus|amieson_A|C_Dave_McRobbie_DistinguishedMemberAward
- 12_ISC44_PeteClark_Chevron_OWSG_Update_API-RP78
- 13_ISC44_Prof_AngusJamieson_AJC_MWD_a_New_Approach
- 14_ISC44_RobertWylie_TreasurersUpdate
- 15_ISC44_CarolMann_DGI_Educational_Subcommittee_update
- 16_ISC44_ChadHanak_SuperiorQC_East_West_Exclusion_Zones

17_ISC44_Phil_Harbidge_Schlumberger_Webmaster_Update



About Us



MISSION -

"The primary aim of this group is to produce and maintain standards for the industry relating to wellbore survey accuracy. To set standards for terminology and accuracy specifications. Establish a standard framework for modelling and validation of tool performance. Raise awareness & understanding of wellbore survey accuracy issues across the industry."

ABOUT -

The ISCWSA work has resulted in the publication of technical papers, leading technical work shops, multiple SPE "Hits and Misses" workshops, the Wellbore Positioning e-book and the soon the standardised anti-collision papers and API project. We have comprehensive cross-industry representation with regular attendance from a wide variety of service companies, operators, and consultants, academia and software companies.

The Industry Steering Committee on Wellbore Survey Accuracy was founded to dispel the confusion and secrecy commonly associated with wellbore surveying and to enable the industry to produce consistent, reliable estimates of survey-tool performance in today's wells. We achieve these goals through the production and maintenance of standards covering the construction and validation of tool performance.

Work focused initially on MWD systems. They provide a large proportion of the total directional survey data world-wide and, because of their similarities between suppliers, are more amenable to specification standardisation than other types of survey tool.

There is no formal membership enrolment to join the ISCWSA and its meetings are open to all who wish to attend. The committee generally holds twice yearly meetings and has held 44 meetings internationally to date. The ISCWSA is also affiliated with the Society of Petroleum Engineers, as the SPE Wellbore Positioning Technical Section.

ISCWSA Elected Committee Members -

- Son Pham, Conoco Phillips: Chair Person
- · Jonathan Lightfoot, Occidental Oil and Gas Corporation: Program Chair
- Chad Hanak, SuperiorQC: Secretary
- · Robert Wylie, Independent: Treasurer
- · Phil Harbidge, Schlumberger: Webmaster
- Steve Sawaryn, Independent: Collision Avoidance Chair

- Andy McGregor, Tech21: Director at large and Error Model Chair
- Ludovic Macresy, Pathcontrol: Director at large
- Anas SIKAL, Pathcontrol: Director at large
- · Carol Mann, Dynamic Graphics Inc: Director at large
- Steve Mullin, Independent: Education Chair



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The ISCWSA is affiliated to the SPE as the Wellbore Positioning Technical Section and has a web site with the SPE at: www.spe.org

Note: The ISCWSA does not approve tool error models for supplier specific survey tools.



ISCWSA Sub-Committees

- ➤ Collision Avoidance Sub-Committee

 ➤ Education Sub-Committee

 ➤ Error Model Sub-Committee

 ➤ Operator's Wellbore Survey Group Sub-Committee
- Survey QA/QC Sub-Committee

▶ Well Intercept Sub-Committee

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More information on the ISCWSA may be obtained from the ISCWSA Committee Chair Person;

Son Pham - Chairperson











Error Model Sub-Committee

expected to perform.

If you are interested in joining the Education Sub-committee please contact the Chairperson

tool error model. It comes in eight variants for the various combinations of:

The role of the ISCWSA Error Model Maintenance Group is to define the mathematical framework for modelling the uncertainty in wellbore surveying.

This allows different companies to implement a consistent set of algorithms for error modelling.

In general, the ISCWSA does not define or supply the detailed magnitudes (or error models, tool codes or IPM files) for a particular survey tool. It is our position that the tool provider is the one who is best placed to assess the uncertainty when using their equipment. Therefore users should request tool codes from their tool provider.

The ISCWSA does not supply, check, certify or warrant the error models created by tool providers. However, the ISCWSA has specified a generic MWD

i) standard MWD or axially (short collar) corrected surveys
ii) from a fixed or floating platform
iii) with or without sag correction

There have been several revisions of these models and we are now at Rev4 05Jun 2015, details of the ISCWSA MWD Error Models up to Rev4 05Jun 2015.

These are generic tool codes and it is up to users and tool providers to ensure that these models correctly match their situation. Like any error model, the generic MWD model makes several assumptions about tool spec, running procedures and processing standards that must be met for the model to be valid for its application to any particular survey log.

The fact that the ISCWSA provides these does not mean that users are forced to use them, that ISCWSA has defined minimum survey requirements, or that tools must be run in this manner. The principle is that any error model applied should correctly match how the tool was used and how it can be



try Steering Committee on Wellbore

curacy (ISCWSA)

As a senarate initiative, the Operators Survey Work Group (OWSG) provides a more complete set of tool codes covering many wellhore survey situations

Docs & Publications

- ► ISCWSA SPE Technical Section Constitution
- Position Uncertainty Bibliography (2010)
- Collision Avoidance Sub-Committee
- ▶ Education Sub-Committee Joint Industry Project e-book
- ► Error Model Sub-Committee

Docs a



Docs & Publications

- **▶** ISCWSA SPE Technical Section Constitution
- ► Position Uncertainty Bibliography (2010)

Collision Avoidance Sub-Committee

Fundamentals of Successful Well Collision Avoidance Management Released 8 Jan 14

Recommendation Against Minimum Allowable Separation Distance (MASD) Dispensation for HSE Risk Wells (Jan-2014)

Standard set of wellpaths for evaluating clearance scenarios 5 Nov 13

Current Common Practice in Collision Avoidance Calculations Oct 2013

Collision Avoidance Lexicon 2011 English

Collision Avoidance Lexicon 2011 Chinese

Current Common Practice in Collision Avoidance Calculations 2011 Chinese

Collision Avoidance Bibliography 2010

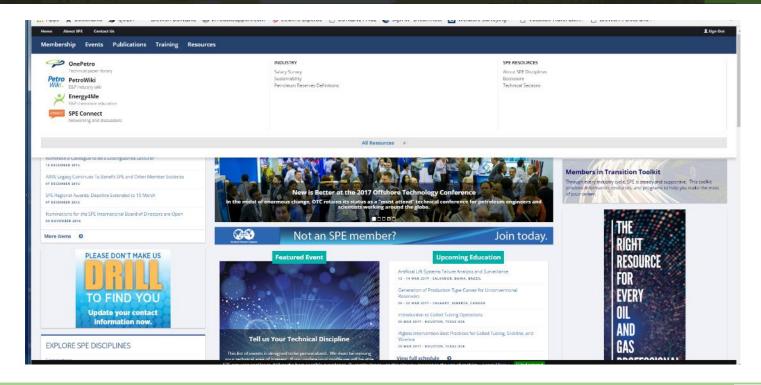
IADC1997_Torkildsen_General_error_model

IKUreport1996_Bang_General_error_model

Please contact the ISCWSA webmaster for any documents or change suggestions for this page

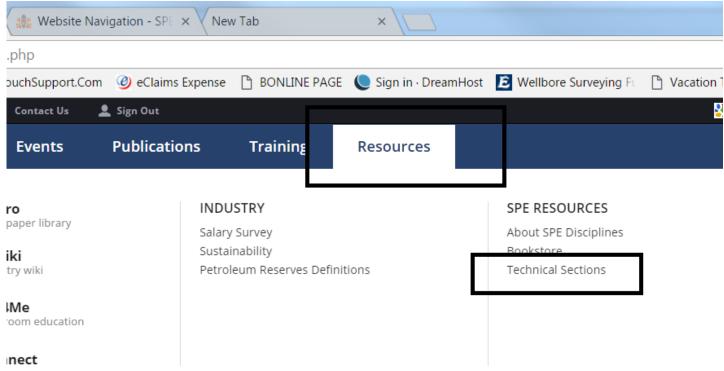
- ▶ Education Sub-Committee Joint Industry Project e-book
- **▶** Error Model Sub-Committee

SPE.org website





How to Join our SPE Technical Section





Technical Sections

Technical Section represents a grouping of global mer topic. These communities of SPE members share idea related to their technical interest. Technical Sections to oriented. They meet virtually for the most part, but ar least once a year.

Current Technical Sections

- Carbon Dioxide Capture, Utilization and Storage
- Drilling Systems Automation
- Digital Energy
- Drilling Uncertainty Prediction
- Flow Assurance
- Geomechanics
- Human Factors
- Petroleum Data-Driven Analytics (PD²A)
- Research and Development
- · Separations Technology
- Sustainable Development
- Water Handling and Management
- Wellbore Positioning
- Well Integrity

Establishing a Technical Section

March 17th. 2017 The Hague, The Netherlands







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Society of Petroleum Engineers

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Demographics

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Education and Employment

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Professional Online Communities | Edit

SPE Connect (connect.spe.org) is an online collabora online collaboration and the interactive exchange of from the list below. When you join a community, you change your community communication preference: Profile+.

Communities you want to get involved with

Technical Communities

Completions

Drilling

HSE

Management and IT



hnical Section

The Industry Steering Committee on Wellbore Survey Accuracy (ISCWSA)

unange Password

Contact Information

Education and Employment

Credentials

Education

Employment

Membership and Participation

Add Subscription

Local and Affiliate Sections

Membership Details

Membership Directory

SPE Connect

Volunteer Service & Letters

Code of Conduct

Preferences

Communication Preferences

Professional Online Communities

Technical Disciplines

Purchases

Print Receipt or Invoice

profile+.

Technical Communities - Join/Unjoin

Groups of SPE members, aligned by common technical interests, w community to share information and ideas, discuss topics of intere other community members. They can participate in discussions, sh and exchange ideas.

- **☑** Completions
- P HS
- Management and IT
- Production
- Projects, Facilities and Construction
- Reservoir

Technical Sections - Join/Unjoin

A Technical Section is a group SPE members with a common intere to share ideas, promote competence, and develop projects related

- Carbon Dioxide Capture, Utilization and Storage
- Digital Energy
- Drilling Systems Automation
- Drilling Uncertainty Prediction
- Flow Assurance
- Geomechanics
- Human Factors
- Petroleum Data Driven Analytics
- Research and Development
- Separations Technology
- Sustainable Development
- Water Handling and Management
- Well Integrity
- Wellbore Positioning



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Professional Network - Join/Unjoin

A Professional Networks is a group of SPE Professional Members aligned by common interests and demographics. They come together to share information and ideas, discuss topics of interest, and answer questions posed by other community members.

- Turkic Network
- Women's Network



45th General Meeting March 17th. 2017 The Hague, The Netherlands



Further Development

- Add to the SEO Search Engine Optimization list to improve search hits
- Add contact forms
- Add survey questionnaire for ISCWSA feedback
- Google analytics statistics and reports

Further Suggestions?



Survey Accuracy (ISCWSA)

Please send webpage feedback to Phil Harbidge

philosdeboer@gmail.com

