



# Education Subcommittee Update

Mahmoud ElGizawy



## Speaker Bio

Mahmoud ElGizawy

- Drilling Surveying Domain Manager
- K&M Technology Group, Schlumberger
- PhD & MSc in Geomatics Engineering, U.of Calgary
- 21 years in positioning and navigation (16 years in wellbore positioning)
- Based in Abu Dhabi, UAE



**Schlumberger**



# Mission Statement

- ISCWSA Education Subcommittee is an advisory body dedicated to raising awareness of wellbore positioning practices and challenges within the drilling industry through workshops, webinars, eBooks, public lectures, and other media.

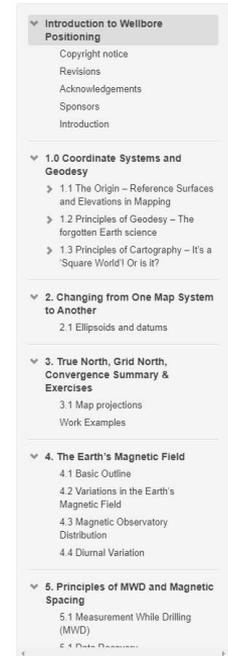


# Agenda

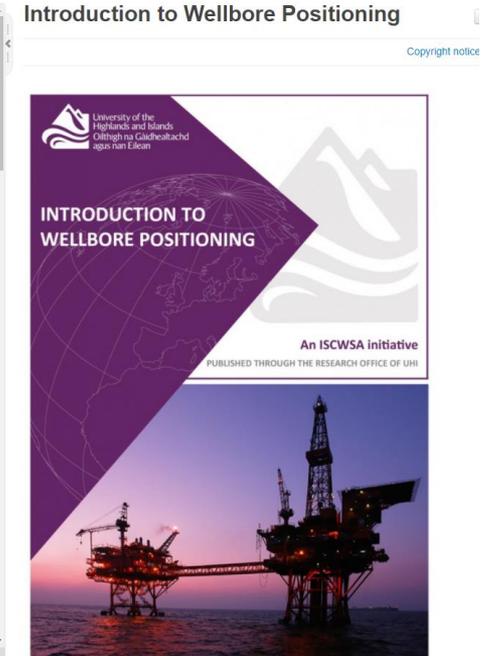
- eBook Updates
- Update to Mission Statement to include offering the new course
- Special Session Updates
- Distinguished Lecture Program
- Drillbotics Competition (DSATS)
- PetroBowl
- ISCWSA Webpage Search functionality and documents tagging
- ISCWSA Course – Introduction to Wellbore Surveying

# eBooks Update

- ISCWSA hosting/copy right of eBooks
  - Introduction to WBP
  - Well Interception
- eBook Introduction to WBP Web version is available
  - Online searchable
  - Easy access by any device
  - Allow readers to provide feedback
  - Track topic views, rating and searches
- eBook Well Interception transition to the web version is on-going



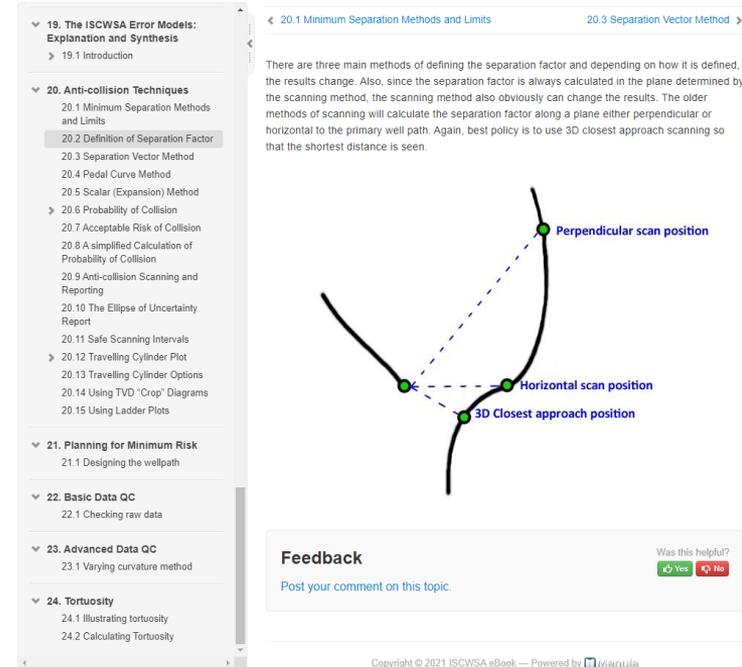
- Introduction to Wellbore Positioning
  - Copyright notice
  - Revisions
  - Acknowledgements
  - Sponsors
  - Introduction
- 1.0 Coordinate Systems and Geodesy
  - 1.1 The Origin – Reference Surfaces and Elevations in Mapping
  - 1.2 Principles of Geodesy – The forgotten Earth science
  - 1.3 Principles of Cartography – It's a 'Square World! Or is it?
- 2. Changing from One Map System to Another
  - 2.1 Ellipsoids and datums
- 3. True North, Grid North, Convergence Summary & Exercises
  - 3.1 Map projections
  - Work Examples
- 4. The Earth's Magnetic Field
  - 4.1 Basic Outline
  - 4.2 Variations in the Earth's Magnetic Field
  - 4.3 Magnetic Observatory Distribution
  - 4.4 Diurnal Variation
- 5. Principles of MWD and Magnetic Spacing
  - 5.1 Measurement While Drilling (MWD)
  - 5.4 Data Processing



<https://www.manula.com/manuals/iscwsa-ebook/iscwsa-ebook-introduction>

# eBooks Update

- Call for content updates eBook Introduction to WBS
  - Please contact:  
Prof. Angus at [Angus.Jamieson@hptech.com](mailto:Angus.Jamieson@hptech.com)  
or  
Mahmoud at [Melgizawy@slb.com](mailto:Melgizawy@slb.com)
- Possible to provide feedback directly on the web version



The screenshot displays the eBook's navigation menu on the left, listing sections such as '19. The ISCWSA Error Models: Explanation and Synthesis', '20. Anti-collision Techniques', '21. Planning for Minimum Risk', '22. Basic Data QC', '23. Advanced Data QC', and '24. Tortuosity'. The main content area shows '20.3 Separation Vector Method' selected, with a text block explaining three methods: perpendicular, horizontal, and 3D closest approach. A diagram illustrates these methods with two curved wellbore paths and three green dots representing different scan positions. A feedback form is visible at the bottom of the content area.

19. The ISCWSA Error Models: Explanation and Synthesis  
19.1 Introduction

20. Anti-collision Techniques  
20.1 Minimum Separation Methods and Limits  
20.2 Definition of Separation Factor  
20.3 Separation Vector Method  
20.4 Pedal Curve Method  
20.5 Scalar (Expansion) Method  
20.6 Probability of Collision  
20.7 Acceptable Risk of Collision  
20.8 A simplified Calculation of Probability of Collision  
20.9 Anti-collision Scanning and Reporting  
20.10 The Ellipse of Uncertainty Report  
20.11 Safe Scanning Intervals  
20.12 Travelling Cylinder Plot  
20.13 Travelling Cylinder Options  
20.14 Using TVD 'Crop' Diagrams  
20.15 Using Ladder Plots

21. Planning for Minimum Risk  
21.1 Designing the wellpath

22. Basic Data QC  
22.1 Checking raw data

23. Advanced Data QC  
23.1 Varying curvature method

24. Tortuosity  
24.1 Illustrating tortuosity  
24.2 Calculating Tortuosity

20.1 Minimum Separation Methods and Limits  
20.2 Separation Vector Method

There are three main methods of defining the separation factor and depending on how it is defined, the results change. Also, since the separation factor is always calculated in the plane determined by the scanning method, the scanning method also obviously can change the results. The older methods of scanning will calculate the separation factor along a plane either perpendicular or horizontal to the primary well path. Again, best policy is to use 3D closest approach scanning so that the shortest distance is seen.

Perpendicular scan position  
Horizontal scan position  
3D Closest approach position

Feedback  
Was this helpful?  
Post your comment on this topic.

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<https://www.manula.com/manuals/iscwsa-ebook/iscwsa-ebook-introduction>



# Update to Mission Statement

- Current Mission:

ISCWSA Education Subcommittee is an advisory body dedicated to raising awareness of wellbore positioning practices and challenges within the drilling industry through workshops, webinars, eBooks, public lectures, and other media.

- Currently under discussion among the Education SC members



# ATCE Special Session

- Proposal accepted for special session at ATCE September 2021 in Dubai
- Joint with DSATS
- **Unfortunately had to be postponed**
- **Title:** How can we define a holistic set of common industry well parameters for reservoir sections that drive life cycle value?
- **Moderators:** John Hudson & Ross Lowdon
- **Speakers:**
  - Key Industry leaders in regional operators covering:
    - Production
    - Drilling
    - Reservoir
    - Subsurface



# Distinguished Lecturer Program



SPE DISTINGUISHED  
**LECTURER**<sup>SM</sup>

Nominee

John Wright



# Drillbotics Competition (DSATS)

- 2021-2022 guidelines was just released this week
- ISCWSA did sponsor the competition in previous years
- ISCWSA is planning to sponsor the competition as Platinum sponsor in 2021-2022
  - Platinum Sponsors will receive a highly visible flag roposing to sponsor the competition as Platinum Sponsor
  - DSATS will prepare a 10-minute video and/or a continuous slide presentation that will run continually on a loop on the monitor/TV screen. This will consist of video content provided by platinum sponsors.
  - Platinum sponsors will also be recognized during the DSATS event with their names and logos prominently displayed at appropriate intervals during the event
  - Platinum sponsors will also have their logos posted on the DSATS website for the period leading up to the event. Upon request, the logo can be directed via a link to the sponsor's website



## Others

- **PetroBowl**
  - David Gutierrez to connect with PetroBowl competition team to include some questions on WBS
  - <https://www.spe.org/en/students/petrobowl/>
- **ISCWSA webpage search functionality is limited**
  - Documents require to be tagged with keywords to make them searchable
  - Effort had been started on this in the past
  - Need to gain traction and get it done



# ISCWSA Course Progress

- Course Director: Robert Wylie
- Course Head Instructor: Prof. Angus Jamieson
  
- 16 students signed up
- Course has started this week
- The plan is 20 students per course, course duration is 3 months, offered 3 times per year
  
- Detailed Updates to follow by Robert Wylie



# Acknowledgement

- Education SC members are acknowledged for their participation and contribution to the SC activities
- **15** Participants in last meeting

**Mahmoud ElGizawy**

**Philip HARBIDGE**

**Knut Johannes Ness**

**Benny Poedjono**

**Robert Estes**

**Heather Vannoy**

**Robert Wylie**

**Angus Jamieson**

**Marc Willerth**

**David Gibson**

**Harald Bolt**

**Ben Hawkinson**

**Carol Mann**

**Nestor Eduardo Ruiz**

**Quigg, Ryan**