



Education Subcommittee Update

Chair: Mahmoud ElGizawy

K&M Technology Group

SLB

Scribe: Carol Mann

Dynamic Graphics, Inc.



Education SC Chairperson

Mahmoud ElGizawy

- Global Surveying Domain Manager
- K&M Technology Group, SLB
- PhD & MSc in Geomatics Engineering, U. of Calgary
- 25 years in positioning and navigation (20 years in wellbore positioning)
- Based in Bucharest, Romania



Carol Mann

- WellArchitect Product Manager, Dynamic Graphics, Inc



DYNAMIC GRAPHICS, INC.



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.



Activities

Professional and Young Professional Awareness

- SPE Live and Webinars
- Distinguished Lecture
- Hits and Misses proposal – target young professional
- ISCWSA Course Scholarship



SPE Webinars / SPE Live 2025

- One Webinar and One SPE Live Planned for 2025
- 14-July-2025 SPE Webinar
- **Looking Back, Looking Now, Looking Forward**
 - John de Wardt (Speaker)
 - David Gibson (Moderator)
- 5-Nov-2025 SPE Live
 - Title, etc. TBD
- Other ideas??? Contact Mahmoud!



Distinguished Lecturer Program



SPE DISTINGUISHED
LECTURERSM

Jonathan Lightfoot (2024-2025)

Recommended Practice for Safe
Separation, Surveying, and Wellbore
Positioning

Jonathan Lightfoot

3/20/2024

Thu Sep 05, 2024	11:00 AM	Alaska Section: Anchorage, Alaska	In Person
Mon Jan 13, 2025	11:00 AM	Beijing China Section: Beijing, Peoples Republic of China	In Person
Wed Jan 15, 2025	2:00 PM	Philippine Section: Manila, Philippines	In Person
Thu Jan 16, 2025	11:00 AM	Cambodia Section: Phnom Penh, Cambodia	In Person
Tue Mar 25, 2025	12:00 PM	Evangeline Section: Lafayette, Louisiana	In Person
Thu Mar 27, 2025	11:00 AM	Pittsburgh Section: Pittsburgh, Pennsylvania	In Person



Distinguished Lecturer Program



SPE DISTINGUISHED
LECTURERSM

Adrian Ledroz (2025-2026)

**High-definition Wellbore Trajectory –
Drilling, Completion, and Production
Considerations**

Schedule TBD



Hitting Targets / Avoiding Hazards ATW

- SPE 2.5-day Advanced Technical Workshop
- Delivered by industry SMEs on Wellbore Positioning
- Tentative Program
 - Introduction to WP
 - Directional database
 - Error models
 - Survey correction
 - Collision avoidance
 - Well interception and its applications
- Organizer Volunteers: Robert Wylie and Carol Mann
- Revised name from “Collision Avoidance and Well Interception,” aka “Hits and Misses”
- Previous Discussions:
 - Consider 1-day only
 - Ross and Benny volunteered at speakers
- Update: Reached out to SPWLA to target subsurface population
- Coordinate with SPE



ISCWSA Course Scholarship Proposal...

- ISCWSA Scholarship is open to take the ISCWSA course and wave the \$1200 tuition fee
- Sponsored by ISCWSA
- Possibly more than one recipient
- Recipient is announced before each cohort
- **Selection committee volunteers:** Suzanne Hawkins and M. Long to receive applications and decide on the scholarship
- Name:
- Contact email:
- Location:
- Please give us an information about your background (Education, career, etc.)
- What is your current role and status?
- Why do you want to attend this course? What do you think you will gain from this course?
- Any previous exposure to wellbore positioning: college / MWD / directional drilling etc.?
- What interests you about wellbore positioning?
- Why should we select you for this scholarship?
- The course is eight weeks (4-6 hrs / week) in duration. Are you able to devote the time required to complete the course?
- Scholarship recipient must complete the course



ISCWSA Course Scholarship Webpage

- Webpage is published
- Access via link on Edu

ISCWSA Wellbore Positioning Course

Students who are eligible for a scholarship at the eight-week course are encouraged to fill out the application form.

ABOUT THE COURSE **APPLY NOW**

https://www.iscwsa.net/forms/iscwsa-scholarship-form/

Community Apps Reports Forms

ISCWSA SCHOLARSHIP FORM

ISCWSA Wellbore Positioning Course Scholarship

The ISCWSA Wellbore Positioning Course is based on the ISCWSA free eBook "Introduction to Wellbore Positioning".

Using a mixture of videos, training exercises, and self-study material, it covers subjects such as mapping and geodesy, directional drilling, surveying, survey uncertainties, and high accuracy directional drilling.

Students who are eligible for a scholarship and are willing to commit 4-6 hours per week throughout the eight-week course are encouraged to fill out the application below to apply for scholarship.

First Name*

Last Name*

Address*

City*

State*

Zipcode*

Please provide in 500 words or less your background (Education, career, etc)*

What is your current role and status? (i.e. student/employed; full-time/part-time?)*

Why do you want to attend this course? What do you think you will gain from this course?*

Please describe any previous experience with or exposure to wellbore positioning: i.e. College / MWD / Directional Drilling, etc?*

What interests you about wellbore positioning?*

Why should we select you for this scholarship?*

Scholarship recipient acknowledges that the eight-week course must be completed to fulfill scholarship requirements.*

SUBMIT



Reach out to young professionals

Please forward SPE WPTS/ISCWSA emails to:

- Your colleagues
- Your colleges



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Educational

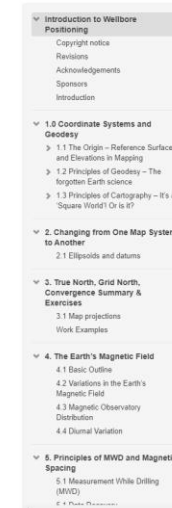
- eBook Update
- ISCWSA Course Update

eBooks Update

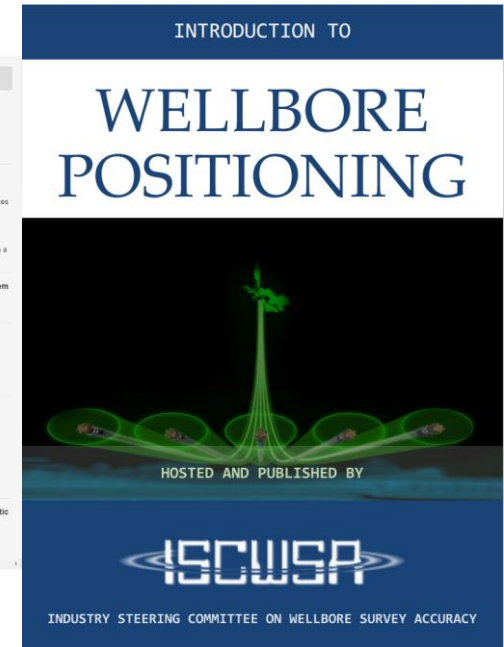
Introduction to WBP

- New Revision draft is complete
- Target to be published H1 2025
- Cover update (remove UHI) / new design
- Each section now has a 'Points to Ponder' addition to the section with additional comments and some key takeaways from the section
- WPTS AC Update
- Error model section simplified – reference to EM SC live document
- Angus and Mahmoud to separate Introductory materials and advanced material (move to appendices)
- WBP eBook Web version is available (considering flippingbook.com)

- ISCWSA hosting/copy right of eBooks
 - Introduction to WBP
 - Well Interception
 - Survey QC (Work-in-Progress)



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)
5.2 Magnetic Spacing





Course Update

- 141 graduates to date
Current cohort #10: 8 students
Cohort #11 late Mar - Jun
- Server update completed
- Proposed updating of some course materials including videos, SOW to be prepared for approval by Board.
- Proposed mitigating student expenses with additional scholarships to be brought to the board meeting

THE ISCWSA WELLBORE POSITIONING COURSE

NEXT COURSE STARTS SEPTEMBER 2024 APPLICATIONS ARE NOW BEING ACCEPTED.

This course is based on the ISCWSA free eBook "Introduction to Wellbore Positioning". The next groups will start in September 2024, and January 2025.

Using a mixture of videos, training exercises, and self-study material, it covers subjects such as Mapping, directional drilling, surveying, survey uncertainties, and high accuracy...

APPLY NOW

About the ISCWSA Wellbore Positioning Course

This course is based on the ISCWSA free eBook "Introduction to Wellbore Positioning".

Using a mixture of videos, training exercises, and self-study material, it covers subjects such as mapping and geodesy, directional drilling, surveying, survey uncertainties, and high accuracy directional drilling.

The screenshot shows the course interface with a video player titled "Mapping History video" and a text block titled "Project from the centre of the Earth". The text discusses the Mercator projection and its distortions. The interface includes a navigation bar with icons for various course modules and a search bar.

What's in this course?

The course has 7 main teaching modules, in addition to introductions and reviews. It is expected that 2 modules will be completed every three weeks. Click on each "Week" Module to for an overview of what is included.

STARTS SEP 2024

APPLICATIONS ARE NOW BEING ACCEPTED.

ENDS DEC 2024

TUITION FEE \$1,200

APPLY NOW

Course Benefits

- Industry recognized certificate
- Be more informed in your work
- Expert instructors
- Paced to fit working students

FAQs & Support Help

How do I earn this course's Certificate?

How long do I keep the course?

What daily hours are recommended?



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Recognition & Awards

- ISCWSA long time contributors to error models, CA and others

Educational

- eBook Update
- ISCWSA Course Update

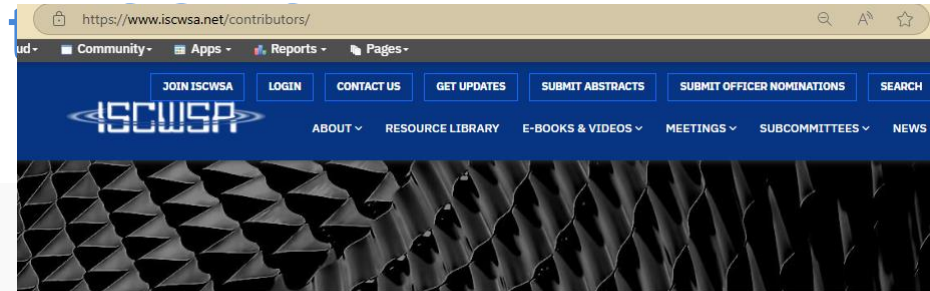
Recognition of contributors (error models, etc.)

ISCWSA Hall of Fame

ISCWSA acknowledgement of long time contributors

HALL OF FAME

- “Hall of fame” page is live, but...
- Work-in-progress
- Can be accessed via Education SC



ISCWSA CONTRIBUTORS HALL OF FAME



Chris Wolff

Wolff and deWardt, systematic error model, SPE 9223 (1981)



John DeWardt

Wolff and deWardt, systematic error model, SPE 9223 (1981)



John Thorogood

Thorogood, instrument performance model (IPM), SPE 18051 (1988). Published in SPE Drilling Engineering in 1990



Andy Brooks

Brooks and Wilson, linking error budget to probability, SPE 36863 (1996), Implementation of toolface-independent weighting functions



Harry Wilson

Brooks and Wilson, linking error budget to probability, SPE 36863 (1996), Implementation of toolface-independent weighting functions



Roger Ekseth

Ekseth's thesis (1998)
Ekseth et al., Gyro error model, SPE 90408 (2004)
Ekseth et al., ISCWSA QC papers, SPE 103734 (2006) and SPE 105558 (2007)



Torgeir Torkildsen

Initiated research in wellbore positioning error model (SINTEF) and as Ekseth's thesis sponsor (1998)



Hugh Williamson

Williamson, ISCWSA error model, SPE 67616 (2000)



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Student Awareness

- ~~Drillbotics Competition (DSATS)~~
- WPTS Directional Drilling Competition proposal
- PetroBowl
- Student Chapters Engagement

WPTS Directional Drilling Competition

- Relief well drilling exercise (S shape well)
- Kick off the competition April 1st
- April 30th is deadline for submission
- Marking and ranking of winners in May
- May 31st winners announcement



Attention all Students

ISCWSA

Drilling Competition

First Prize \$1000
Second Prize \$750
Third Prize \$500

1. Download the Simulator
2. Watch the Training Video
3. Submit your Survey File
4. Get Rich Quick

Here's the link
[www.iscwsa.net/Relief Well Competition](http://www.iscwsa.net/Relief_Well_Competition)



WPTS Directional Drilling Competition is Live

Directional Drilling Competition

You're invited to participate in an exciting Virtual Directional Drilling Competition hosted by ISCWSA, where your skills will be put to the test in a simulated drilling environment! Using directional drilling simulation software, you'll navigate through challenging well path and showcase your expertise in directional drilling.

[LEARN MORE](#)

- Link can be accessed via Education SC page
- Simulator software installation file is ready
- Pending tutorial video
- Announcement via WPTS mailing list + reach out to students' chapters



WPTS Directional Drilling Competition Live Webpage

DIGITAL DIRECTIONAL DRILLING COMPETITION

COMPETITION STARTS 1-APR-2025

You're invited to participate in an exciting Virtual Directional Drilling Competition hosted by ISCWSA, where your skills will be put to the test in a simulated drilling environment! Using directional drilling simulation software, you'll navigate through challenging well path and showcase your expertise in directional drilling.

ENTER THE COMPETITION



Put Your Skills to the Test

Put your skills to the test in a simulated drilling environment! Using directional drilling simulation software, you'll navigate through challenging well path and showcase your expertise in directional drilling. The goal? To drill the well in the least number of runs and as quickly as possible! Compete against top talents, sharpen your precision, and claim the title of the fastest and most efficient virtual directional driller. Don't miss this chance to prove your mastery—join us and take on the challenge!

STARTS 1-APR-2025

**ENTRIES ARE NOW BEING
ACCEPTED.**

ENDS 30-APRIL-2025

**WINNERS ANNOUNCED 31-MAY-
2025**

ENTER NOW

Winner Prizes

- First Prize \$ 1000**
- Second Prize \$ 750**
- Third Prize \$ 500**



PetroBowl

PetroBowl[®] Competition

The PetroBowl[®] competition matches SPE student chapter teams against one another in a fast-paced quiz competition covering technical and nontechnical aspects of the oil and gas industry.

<https://www.spe.org/en/students/petrobowl/>

- Connect with PetroBowl competition team to include questions on WBS
- Looking for contributions
- ***Submit your Wellbore Positioning questions*** via PetroBowl link

ISCWSA - PetroBowl Q&A Submittal

The PetroBowl is an international competition hosted by the SPE that pits student chapter teams against each other in a series of quick-fire Q&A rounds related to the Oil & Gas industry. This is a great opportunity for the ISCWSA to continue spreading the message of the importance of wellbore positioning.

<https://www.spe.org/en/students/petrobowl/>



Acknowledgement

- Education SC members are acknowledged for their participation and contribution to the SC activities
- Participants in this week's meeting:
 - Carol Mann, Dynamic Graphics
 - Jamie Dorey, SDI
 - Matt Weber, Shell
 - Inge Edvardsen, Baker Hughes
 - Joel Dunn, AI Driller
 - Mark Frazier, SDI
 - Robert Wylie, Xn Drilling
 - Angus Jaimeson, AJCPD
 - Josh Albright, SQC
 - Mike Long, Round LAB
 - David Erdos, Erdo Miller
 - *Online:*
 - Mahmoud ElGizawy, K&M
 - Harald Bolt, Depth Solutions
 - Ryan Quigg, Weatherford
 - Knut Ness, ADNOC
 - *Apologies to any missed online or in-person attendees....*