

令和3年10月

SEG 2021 Distinguished Instructor Short Course (DISC)開催のお知らせ

公益社団法人物理探査学会
国際委員会

Society of Exploration Geophysicists (SEG)の教育プログラム Distinguished Instructor Short Course (DISC)が2年ぶりに開催されます。このプログラムは、物理探査分野における著名な講師が世界各地の連携学会を回り、最新のテーマについて講義を行うものですが、今回はコロナの影響を考慮した上でのオンライン開催となります。最先端の技術を知る大変よい機会ですので奮ってご参加ください。

今年の DISC 講師は SEG 元会長でもある Dave Monk 氏です。日々進化する地震探査技術、その最新のデータ取得および処理の技術を活かせば、調査仕様のデザインにもまた新たな発想が生まれるようです。興味深い講演が期待されます。

講義概要については [SEG のサイト](#) をご覧ください。

記

テーマ : Survey Design and Seismic Acquisition for Land, Marine, and
In-between in Light of New Technology and Techniques

講師 : Dave Monk

(ACTeQ, Geophysical Technology Inc. / Downunder Geosolutions)

日時 : 令和3年11月9日(火)～10日(水) 両日とも 9:00~13:00

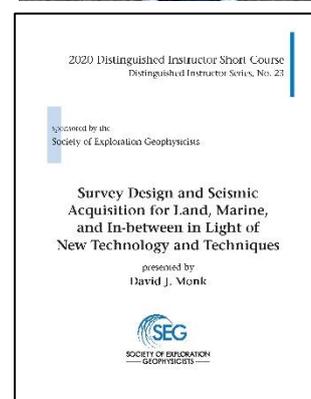
場所 : オンライン (Zoom)

参加費 : SEG 会員 US\$250 SEG 非会員 US\$370 学生 US\$80

申込 : SEG のウェブサイトからお申し込みください ([こちらから](#))。

備考 :

- 米国との時差を考慮して2日間に分けての開催となります。
- 参加費は同名タイトルのテキスト(電子版)の代金(会員価格 US\$84)を含みます。



以上

お問い合わせ先 : 公益社団法人 物理探査学会 事務局

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Description

Seismic surveys are subject to many different design criteria, but often the parameters are established based on an outdated view of how data can be acquired, and how it will be processed. This course is designed to highlight what is possible using modern methods, and how they impact seismic survey design.

Survey designs are subject to a limited set of operational and geophysical considerations. What frequencies do we require (in the source), and what will or can we detect? What geometry will be utilized, and what record length will be recorded?

However, new techniques and processing methods require that we understand and answer a new and different set of questions:

- Are classic survey geometries outdated? What geometry is optimum given almost limitless availability of channels, and how are these best deployed if they are not constrained to be connected together?
- How do you QC data from a system that doesn't permit real time views of data?
- How do compressive sensing methodologies fit into classical geometry requirements, and can these significantly impact how data is acquired and processed? Is random "optimum" and is optimum unique?
- Do offset and sampling requirements change if processing will utilize FWI and/or least squares migration?
- Can very low frequencies be generated, detected and used for improved inversion?
- How should simultaneous sources be utilized, and can subsequent data be separated from the continuous records that will be required if this technique is used? If two sources are better than one, are four better than two?
- What should we expect of seismic data five or ten years from now?

This course is designed to cover some of the fundamentals of survey design, but will highlight the changes in technology that we have seen in the past five years, and those that are likely to develop in the next five years with a view to allowing seismic surveys to be designed and acquired to optimize technology efficiencies and interpretation requirements in light of new technology.

Goals

This course will not describe specific survey designs for particular geologic objectives, but after attending this course, the participant should:

- Understand the basic geophysical requirements of a seismic survey, based on geologic objectives
- Have a much-improved knowledge of the differences between classic survey design, and what is required for modern high-end processing techniques including FWI
- Understand the concepts of simultaneous sources, compressive sensing, node acquisition, and broadband data, and see how these fit into survey design techniques
- Understand that there is a relationship between acquisition parameters and seismic image quality

- Understand how the basic requirements tied to modern acquisition and processing ideas can fundamentally change the data that is presented to an interpreter, and why final data volumes can look significantly different from legacy data

Who should attend?

All those interested in seismic surveys should attend. Geophysicists involved in acquisition may discover new techniques and concepts which with they are unfamiliar. Geophysicists involved in processing seismic data will better understand the shortcomings of the data that they are given to process, and better understand what techniques will, and will not, work for a particular survey. The interpreter may better understand the difference between modern seismic volumes presented for interpretation, and the legacy data that he is accustomed to interpreting. For those directly involved in survey design, the concepts will open up the potential for acquiring better images of the subsurface more efficiently, and at less cost.

The course does not require extensive mathematical knowledge or background. Concepts will be explained in a way that the layman or manager can understand. Students will be able to follow and understand the course from the basics to the level of asking knowledgeable questions of those actually involved in seismic acquisition and processing.

Biography



Dave Monk holds a PhD in Physics from Nottingham University in the UK, and served as director of geophysics and as a distinguished advisor at Apache Corporation, until his retirement in October, 2019.

Monk started his career on seismic crews in Nigeria and has subsequently been involved in seismic processing and acquisition in most parts of the world. Throughout his career, he has retained an interest in developing innovative ways to acquire, process, and utilize seismic data to improve final interpretation

An author of over 100 technical papers and articles, as well as a number of patents, Monk has received Best Paper Awards from the Society of Exploration Geophysicists (1992), the Canadian SEG (2002), and the Hagedoorn Award from the European Association of Exploration Geophysics (1994).

Monk received Honorary Membership in the Geophysical Society of Houston in 2008 and Life Membership in the SEG in 2009. He served as president of the Society of Exploration Geophysicists in 2012–2013.