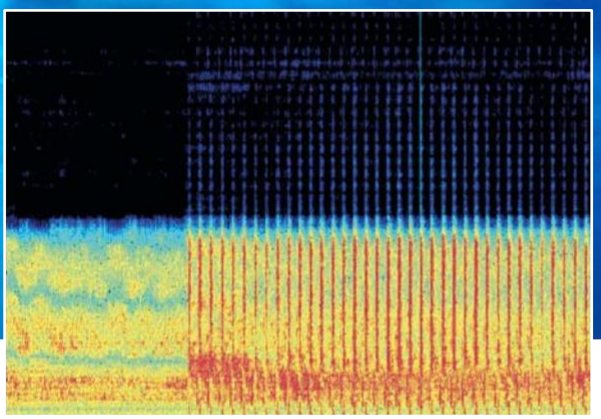
Professional Accreditation

Underwater Acoustics & Sonar Systems



A five-day intensive course in underwater acoustics delivered by leading research professionals for engineers and scientists from industry and defence.

The UASS course will cover the principles of underwater acoustics. Followed by advanced modules on underwater sound sources with a key emphasis on sonar, and sonar applications. Covering a wide range of military systems, the course will also cover commercial aspects such as seabed mapping and Oil & Gas interests like marine mammal detection and identification as well as sub-bottom profiling and underwater archeology.

Delegates will need a basic understanding of decibels and spectra. CPD-recognised by the Institute of Marine Engineering, Science and Technology (IMarEST) and is run in association with the University of Bath.

Courses in 2024

14-18th October..... Devon, UK

To book your place

www.seichetraining.com
Or **email**
training@seiche.com

internationally respected Accredited by key governing bodies delivered by experts

Acoustics & Sonar

About the course

Because of the complex time varying temperature and sound speed structure of the ocean, underwater sound propagation can be difficult to predict. It is essential to understand the basic concepts of underwater acoustics to be able to model the performance of sonar systems of all types.

This five-day Marine Sonar course combines lectures with practical workshops to explore the ocean environment, get to grips with the terminology and concepts relating to sonar, and learn how sonar technology can be applied in the oil, gas and defence industries.

Delegates will investigate what can be done to mitigate underwater noise before examining environmental regulations, Environmental Impact Assessments (EIAs), guidelines, emerging studies and technologies in marine acoustics and sonar.
Led by research experts at the top of their field, delegates will discover the latest developments in marine sonar and acoustics.

Experts

Professor Victor Humphrey is a professor of Acoustics in the Institute of Sound and Vibration Research at the University of Southampton. He has over 30 years of research experience in underwater acoustics and medical ultrasound.

Dr Peter Dobbins has over 50 years of engineering and physics experience and has worked in underwater acoustics since 1975. He has a PhD from the University of Bath. Throughout his career, Peter has researched and developed products and applications related to marine acoustics.

Modules

Day 1
Concepts of Underwater Acoustics
Introduction to Acoustics & Underwater Acoustics
Key Quantities, Units & Dimensions
Powers & Logs
Decibels
Reflection & Transmission at Boundaries
Spectra & Sound Sources

Day 2
Ocean Environment
Noise & Reverberation
Hydrophones
Acoustic Transducers & Transducer Modelling

Day 3
Acoustic Mapping
Seabed Profiling – Target Detection
Transducer Fields & Directivity
Bandwidth Risetime & Spatial Resolution
Propagation Modelling
Sonar Equation – Source & Loss

Day 4
Marine Habitat Mapping
Sonar System Performance
Noise Measurement
Vessel Radiated Noise
Environmental Impact Assessment
Seismic Sources and Sub-bottom Propagation

Day 5
Sonar Performance – Fluctuation & Variability
Acoustic Instruments
Navigation & Positioning
Acoustic Communications
Acoustic Beams & Beamforming
Target Recognition – Classification & Detection
Types of Sonar System

About Seiche Training

Seiche Training offers world-class training for individuals and companies in the UK and around the globe. Delivered by renowned university academics and experts in their field, these courses bring together the best of academia and industry.

We offer both Marine Mammal Monitoring (visual and acoustic) as well as Underwater Acoustics courses in association with the University of Bath.

Seiche Training also offers bespoke and in-house company training on topics relating to Passive Acoustic Monitoring Marine Mammal Monitoring and Underwater Acoustics.