




# AKTIVITETER I SKANDINAVIEN 2012

Brüel & Kjær tilbyder / *erbjuder* igen i år en bred vifte / utbud af aktiviteter indenfor lyd og vibration. Hovedparten af aktiviteterne består af kurser der udbydes / erbjuds internationalt, men enkelte kurser mærket med flag / *flagga* afholdes kun / *hålls endast* for kunder fra det pågældende / *respektive* land.

Hvor andet ikke er anført afholdes aktiviteterne i Brüel & Kjær University i Nærum. Få yderligere information om kursusindhold på det lokale website.

-  Læs mere detaljeret om kurserne på [www.bksv.dk](http://www.bksv.dk)
-  Läs mer detaljerat om kurserna på [www.bksv.se](http://www.bksv.se)
-  Read more about courses in English and Webinars on [www.bksv.com](http://www.bksv.com)

Alle kursusafgifter er excl. moms. I prisen er inkluderet kursusmateriale, frokost / lunch samt kaffe. Angående overnatning hjælper vi gerne med hotelanvisning.

**Kunder med PULSE M1 Support- og opdateringsaftale, ODEON 7835/36/37 MS1, Predictor 7810 MS1 eller VC-LAN 7541/42 får 10% rabat på de anførte / angivna priser.**



## LYD / STØJ / AKUSTIK

### PULSE brugerdag

Hvis du hurtigt vil have maksimalt udbytte af de nye funktioner og applikationer, der er udviklet til version 16, samt ønsker at udveksle erfaring med andre PULSE brugere, inviterer vi dig til PULSE brugerdag, som er gratis for alle med gyldig M1-aftale.

**Dato /Kursusafgift:**

10. januar – Brüel & Kjær University – Gratis

12. januar – Jylland – Gratis

**Undervisere:**

Patrick Glibert & Tom Sørensen, Brüel & Kjær

**Sprog:** Dansk

### PULSE användardag

Vill du snabbt ha maximalt utbyte av nya funktioner och applikationer i vers. 16? Vi inviterar dig härmed till en PULSE användardag, som är utan kostnad för dig med giltigt M1-avtal. Det blir en genomgång av nyheter, med möjlighet att ställa frågor och ge kommentarer.

**Datum /Kursavgift:**

19. januari – Göteborg – u.k. med M1-avtal

**Föreläsare:**

Patrick Glibert och Lasse Sandklef, Brüel & Kjær

**Språk:** Engelska / svenska

### Strategic Noise Mapping Good Practice

This course introduces users of environmental noise calculation software to good practice in strategic noise mapping. The course gives you a unique opportunity of getting insight and up to date experience in the process involved, good practice and tools available and in-depth information on the latest developments. The course will have a high focus on practical hands-on based around Predictor 7810 and Lima 7812, supported by theoretical lectures and case studies.

**Date /Price:**

28.- 29. februar – DKK 6.600

**Language:** English

### PULSE Reflex Core

During this course you will understand the general scope of PULSE Reflex post processing applications, become familiar with the user interface and workflow in PULSE Reflex

and be able to perform a detailed analysis on recorded time data using the PULSE Reflex Core application. This is just some out of many.

**Date /Price:**

13.- 14. marts – DKK 6.600

**Language:** English

### Introduction to Electroacoustic Measurements

Pre-course introduction to customers with no or very little electroacoustic knowledge

**Date /Price:**

24. april – DKK 4.140

8. oktober – DKK 4.140

**Language:** English

### Electroacoustic Measurements on Personal Communication Devices

How to apply the fundamentals of electroacoustic measurements to the measurement of telephones, mobile phones and other devices with telephone functions. Specialised principles, techniques and vocabulary used in measuring the electroacoustic transmission of analogue, digital, cellular and other telephones are covered. Methods specified in ITU-T, ETSI, IEEE and TIA standards are explained.

**Date /Price:**

25.- 27. april – DKK 9.900

9.- 11. oktober – DKK 9.900

**Language:** English

### Acoustic Imaging & Noise Source Identification

The course provides the participants with an in-depth knowledge of Noise Source Identification Techniques, focussing on the underlying theory and the practical know-how required for successful implementation. It presents the most up-to-date techniques including Beamforming and Statistically Optimized Nearfield Acoustically Holography, SONAH. Extensive demonstration sessions are included.

**Date /Price:**

8.- 9. maj – DKK 6.600

**Language:** English

### PULSE Reflex til akustisk test af telefoner

På temadagen gives en indføring i Brüel & Kjær nye PULSE Reflex platform, der bl.a. anvendes

til test af telefoner samt generel efterbehandling af optagelser. Endvidere gennemgås moderne testmetoder til evaluering af støjreduktion samt taleforbedring i mobiltelefoner.

**Dato /Kursusafgift:**

15. maj – Brüel & Kjær University – Gratis

**Undervisere:**

Lars Birger Nielsen & Tom Sørensen,

Brüel & Kjær

**Sprog:** Dansk

### Lyd og lydmåling

Dette kursus henvender sig til dig der skal i gang med at måle lyd for første gang eller til dig der har erfaring indenfor lydmåling, men ønsker at genopfriske begreberne. Vi stiller op med lydmalere og lyde, og ud fra praktiske eksempler lærer du at måle lyd og anvende simple regneregler, udføre rumakustiske beregninger og får kendskab til indholdet i relevante bekendtgørelser. Når dagen er omme, er du bredt orienteret og kan selv udføre målinger samt tolke og forstå indholdet i støjrapporter.

**Dato /Kursusafgift:**

22. maj – Jylland – DKK 2.800

23. maj – Fyn – DKK 2.800

24. maj – Sjælland – DKK 2.800

**Undervisere:**

Eilif Bitsch Jensen & Tom Sørensen,

Brüel & Kjær

**Sprog:** Dansk

### PULSE User Training

The course gives a thorough introduction to the use of PULSE hardware and software through a series of lectures mixed with extensive practical hands-on for all participants. The theoretical part gives a non-mathematical introduction to signal and system analysis with emphasis on the practical aspects of how to perform good and reliable measurements.

**Date /Price:**

18.- 19. juni – DKK 6.600

26.- 27. november – DKK 6.600

**Language:** English

### Advanced Acoustics

This course gives an in-depth description of Sound Intensity measurements including calibration, PI-index, sound power determination and noise source mapping. Participants are

given extensive opportunities for performing measurements on their own.

**Date /Price:**

18.- 19. september – DKK 6.600

**Language:** English

## Grundläggande bullerkurs

Känner du att du behöver en uppdatering i akustikens grundbegrepp? Behöver du en uppfräschning i instrumentteknik och hur man på ett enkelt sätt utför ljudmätningar? Då är den här dagen ett gyllene tillfälle för dig att få hjälp med detta.

**Datum /Kursavgift:**

10. oktober – Södra Sverige – SEK 3.150

**Föreläsare:**

Lasse Sandklef & Magnus Ledin, Brüel & Kjær  
**Språk:** Svenska

## Environmental Noise Management

Introduction to all aspects of the management and control of environmental noise, from mapping to monitoring, from action planning to noise reduction, from noise assessment to soundscaping. A unique opportunity of getting insight and up to date experience in the tasks involved, good practice and tools available and in-depth information on the latest developments in environmental noise management including the new ISO 1996 Environmental Noise Assessment standard. The course will be a mix of theoretical lectures and practical hands-on

**Date /Price:**

29.- 31. oktober – DKK 9.900

**Language:** English

## VIBRATION

### Modal Analysis

The course will provide the participants with an in-depth knowledge of experimental modal analysis, focusing on the underlying theory and on the practical know-how required for successful implementation. It presents the most up-to-date techniques including use of advanced simulation tools. Hands-on exercises on real structures during the entire course.

**Date /Price:**

19.- 21. marts – DKK 9.900

4.- 6. december – DKK 9.900

**Language:** English

### Operational Modal Analysis

A one-day course covering "response only modal analysis" based on unmeasured excitation, for example, natural excitation. The theory behind analysis techniques such as (Enhanced) Frequency Domain Decomposition (FDD and EFDD), as well as the time domain technique, Stochastic Subspace Identification (SSI) will be covered. The techniques will be illustrated with several application examples from Civil Engineering Structures such as building and bridges as well as Mechanical

Engineering Structures such as automotive and aerospace structures.

**Date /Price:**

22.- 23. marts – DKK 6.600

**Language:** English

## Vibration Test Shaker & Controlling

For the engineer new in the field as well as the experienced user looking for a refresher course. This course explains how to interpret vibration test specifications and apply them to a vibration test system. This is explained through subjects such as: Sine-, random- and shock/bump testing together with a background to the equipment required for each type of test, methods of control and simple fixturing.

An optional 3rd day is available which covers the LDS Laser USB Controller for sine, random, shock and mixed mode testing (90% practical).

**Date /Price:**

12.- 13. (14.) juni – DKK 6.600 / (4.140)

13.- 14. (15.) november – DKK 6.600 / (4.140)

**Language:** English

## Måling af vibrationer

Kurset henvender sig til dig, der skal i gang med at måle vibrationer for første gang eller til dig, der har erfaring indenfor vibrationsmåling, men som ønsker genopfriskning. Deltagerne laver en simpel vibrationsmåling hvorefter resultatet, måleopstillingen samt begreber diskuteres. Gennem flere øvelser i små hold, gør vi gradvist målingerne mere avancerede, underbygget med den nødvendige teori.

Når dagen er omme vil du have styr på basal vibrationsmåling fra simpel severity-måling til spektrumanalyse (FFT), run-up run-down målinger og resonans-identifikation.

Benyttede værktøjer er primært Brüel & Kjær Type 2250-H-001, Photon+, PULSE samt flere forskellige transducere. Der kræves ikke nogen forkundskaber til instrumenterne.

**Dato /Kursafgift:**

13. september – DKK 2.500

**Undervisere:**

Peter Lund Plechinger & Tom Sørensen, Brüel & Kjær

**Sprog:** Dansk

## Rotating Machinery Diagnostics

A course for engineers and developers involved in the design and maintenance of rotating machinery of all kinds. The course describes the different vibration sources of rotating machinery and demonstrates measurement and analysis of the resulting vibration. The objective is to give the participants an understanding of fault mechanisms and measurement techniques.

**Date /Price:**

28.-30. november – DKK 9.900

**Language:** English

## ANDET

### Odeon

For the user with basic ODEON experience. Using the extrusion modeller, import room models in dxf format, get hints and tricks for calculation setup and saving calculation time. Use the auralisation options with headphones or with a surround speaker setup or make efficient animations from your room acoustic projects with the visualisation tool.

**Date /Price:**

17.- 18. april – DKK 6.600

**Language:** English

### Net Courses

Make sure you attend our free one hour Webinars over the internet. The Webinars cover a wide range of sound and vibration applications and techniques and are hosted by Brüel & Kjær experts. For more information please visit [www.bksv.com](http://www.bksv.com).

## KONFERENCER / UDSTILLINGER HVOR VI MEDVIRKER:

### EWEA

**Dato /sted:** 16.-19. april – Bella Center, København

### BNAM 2012 - Baltic Nordic Acoustic Meeting

**Dato /sted:** 18.-20. juni – SDU, Odense

### Arbejds Miljø 2012 - ny fagmesse

**Dato/sted:** 26.- 27. september – Bella Center, København

### ArbejdsMiljø-konference

**Dato/sted:** 19.- 20. november – Hotel Nyborg Strand, Nyborg

I tilfælde af utilstrækkelig tilslutning forbeholder vi os retten til at aflyse. / Vi förbehåller oss rätten att inställa arrangemang om deltagarantalet är för lågt.

**Bemærk / Notera:** Ved afmelding / avbokning senere end 2 uger før / veckor innan kurssets start faktureres 30% af kursusafgiften - senere end 1 uge før / vecka innan faktureres hele afgiften

# BRÜEL & KJÆR AKTIVITETSKALENDER 2012




## Juli

1	S	
2	M	
3	T	
4	O	
5	T	
6	F	
7	L	
8	S	
9	M	
10	T	
11	O	
12	T	
13	F	
14	L	
15	S	
16	M	
17	T	
18	O	
19	T	
20	F	
21	L	
22	S	
23	M	
24	T	
25	O	
26	T	
27	F	
28	L	
29	S	
30	M	
31	T	


## August

1	O	
2	T	
3	F	
4	L	
5	S	
6	M	
7	T	
8	O	
9	T	
10	F	
11	L	
12	S	
13	M	
14	T	
15	O	
16	T	
17	F	
18	L	
19	S	
20	M	
21	T	
22	O	
23	T	
24	F	
25	L	
26	S	
27	M	
28	T	
29	O	
30	T	
31	F	

## September

1	L	
2	S	
3	M	
4	T	
5	O	
6	T	
7	F	
8	L	
9	S	
10	M	
11	T	
12	O	
13	T	Mailing af vibrationer 
14	F	
15	L	
16	S	
17	M	
18	T	Advanced Acoustics
19	O	
20	T	
21	F	
22	L	
23	S	
24	M	
25	T	
26	O	
27	T	
28	F	
29	L	
30	S	

## Oktober

1	M	
2	T	
3	O	
4	T	
5	F	
6	L	
7	S	
8	M	Introduction to Electroacoustics
9	T	Electroacoustic Measurements on Telephones 
10	O	Grundlägg. bullerkurs
11	T	
12	F	
13	L	
14	S	
15	M	
16	T	
17	O	
18	T	
19	F	
20	L	
21	S	
22	M	
23	T	
24	O	
25	T	
26	F	
27	L	
28	S	
29	M	Environmental Noise Management
30	T	
31	O	

## November

1	T	
2	F	
3	L	
4	S	
5	M	
6	T	
7	O	
8	T	
9	F	
10	L	
11	S	
12	M	
13	T	Vibration Test
14	O	Shaker & Controlling
15	T	Hands on Vib. Control
16	F	
17	L	
18	S	
19	M	
20	T	
21	O	
22	T	
23	F	
24	L	
25	S	
26	M	PULSE User Training
27	T	
28	O	Rotating Machinery
29	T	Diagnostics
30	F	

## December

1	L	
2	S	
3	M	
4	T	Modal Analysis
5	O	
6	T	
7	F	
8	L	
9	S	
10	M	
11	T	
12	O	
13	T	
14	F	
15	L	
16	S	
17	M	
18	T	
19	O	
20	T	
21	F	
22	L	
23	S	
24	M	Juleaftensdag
25	T	1. Juledag
26	O	2. Juledag
27	T	
28	F	
29	L	
30	S	
31	M	Nytårsaften






BRÜEL & KJÆR

# AKTIVITETSKALENDER 2012

Brüel & Kjær 

## Januar

1 S Nyårsdag  
2 M  
3 T  
4 O  
5 T  
6 F  
7 L  
8 S  
9 M  
10 T PULSE brugerdag   
11 O  
12 T PULSE brugerdag   
13 F  
14 L  
15 S  
16 M  
17 T  
18 O  
19 T PULSE anvænderdag   
20 F  
21 L  
22 S  
23 M  
24 T  
25 O  
26 T  
27 F  
28 L  
29 S  
30 M  
31 T

## Februar

1 O  
2 T  
3 F  
4 L  
5 S  
6 M  
7 T  
8 O  
9 T  
10 F  
11 L  
12 S  
13 M  
14 T  
15 O  
16 T  
17 F  
18 L  
19 S  
20 M  
21 T  
22 O  
23 T  
24 F  
25 L  
26 S  
27 M  
28 T Strategic Noise Mapping  
29 O Good Practice  
30 M  
31 T

## Marts

1 T  
2 F  
3 L  
4 S  
5 M  
6 T  
7 O  
8 T  
9 F  
10 L  
11 S  
12 M  
13 T PULSE Reflex Core  
14 O  
15 T  
16 F  
17 L  
18 S  
19 M Modal  
20 T Analysis  
21 O  
22 T Operational Modal  
23 F Analysis  
24 L  
25 S  
26 M  
27 T  
28 O  
29 T  
30 F  
31 L

## April

1 S  
2 M  
3 T  
4 O  
5 T Skærtorsdag  
6 F Langfredag  
7 L  
8 S Påskedag  
9 M 2. Påskedag  
10 T  
11 O  
12 T  
13 F  
14 L  
15 S  
16 M  
17 T ODEON  
18 O  
19 T  
20 F  
21 L  
22 S  
23 M  
24 T Introduction to Electroacoustics  
25 O Electroacoustic Measurements on Personal Comm.  
26 T  
27 F Devices  
28 L  
29 S  
30 M  
31 T

## Maj

1 T 1. maj  
2 O  
3 T  
4 F St. Bededag  
5 L  
6 S  
7 M  
8 T Acoustic Imaging & Noise Source Identification  
9 O  
10 T  
11 F  
12 L  
13 S  
14 M  
15 T PULSE Reflex.tif. test   
16 O  
17 T Kr. Himmelfart  
18 F  
19 L  
20 S  
21 M  
22 T Lyd og lydmåling  
23 O Lyd og lydmåling  
24 T Lyd og lydmåling  
25 F  
26 L  
27 S  
28 M 2. Pinsedag  
29 T  
30 O  
31 T

## Juni

1 F  
2 L  
3 S  
4 M  
5 T Grundlovsdag  
6 O  
7 T  
8 F  
9 L  
10 S  
11 M  
12 T Vibration Test  
13 O Shaker & Controlling  
14 T Hands on Vib. Control  
15 F  
16 L  
17 S  
18 M PULSE User Training  
19 T  
20 O  
21 T  
22 F  
23 L  
24 S  
25 M  
26 T  
27 O  
28 T  
29 F  
30 L