Differential Scanning Calorimetry (DSC)

Program

Two types of DSC training courses are available.
The practical DSC training is mainly hands-on, and is designed for the operator of the instrument. Focus is on optimum use of the equipment; calibration and maintenance are major topics.
The theoretical DSC training is mainly lecture based, with only a brief hands-on session. It is designed to help the researcher/lab manager in choosing optimum measurement conditions and performing interpretation of the results. Moreover, a general overview of the use of DSC in multiple fields is presented.

Practical DSC Training, 1 day

This training is mainly hands-on and designed for the operator to get the most out of his DSC. Equipment covered: Q2000, Q200, Q20, Q1000, Q100, Q10.

09.15 – 09.30 Registration – coffee

09.30 – 12.30 Introduction technique and instrumentation
  Calibration & verification: Tzero, baseline, heat flow, temperature, autosampler
  Optimisation and importance of baseline
  Choice of purge gas, flow rate, pan type
  Design of experimental method
  Tips for optimum use of data analysis software

12.30 – 13.30 Lunch

13.30 – 16.30 Maintenance of the DSC:
  Cleaning a dirty furnace
  Aligning the autoloid
  Replacing the autosampler gripper fingers
  Optimum use and maintenance of the cooling accessory

16.30 – …. Question session
Theoretical DSC Training, 2 days

This training is mainly lecture based and designed to provide a general review on the importance of experimental parameters and different applications of the DSC. This training is to a big extent brand independent.

Day 1

09.15 – 09.30 Registration – coffee

09.30 – 12.00 Introduction technique and instrumentation
  Thermodynamic principles
  Design of experimental method
  Calibration: theory

12.00 – 13.00 Lunch

13.00 – 16.30 Optimisation of experimental conditions (purge gas, sample preparation, choice of pan type, heating & cooling rate)

16.30 – …. Question session

Day 2

09.15 – 09.30 Registration – coffee

09.30 – 12.00 Measuring conditions for typical material classes
  The glass transition temperature
  Melting and crystallisation

12.00 – 13.00 Lunch

13.00 – 16.30 How to measure heat capacity?
  Hints for optimum use of data analysis software
  Introduction to Modulated DSC

16.30 – …. Question Session
Practical Information

Location: Application lab TA Instruments
Brusselsesteenweg 500, 1731 Zellik (B)

Language: The course language is English.

Notes: Notes are provided at the start of the day.

Registration fee: Registration fee per person is 1500 Euro for the 2-days course and 1000 Euro for the 1-day course.
Lunch is included.
Participation is free of charge for users who recently bought new equipment, with a maximum of 2 persons (excluding optional hotel fare). Participation is also free of charge for customers with an Academic, Premium or Lifetime Support Plan.
Universities / schools receive 100 Euro discount on the registration fee per day.
An invoice for course registration (if applicable) will be send after the course.

Hotel: Hotels located close to our office are:
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Gosset Hotel (Groot-Bijgaarden), www.gosset.be

Info: For all additional questions please contact Nadia Rassart
B: +32-2-7060080
NL: +31-76-5087270
NRassart@tainstruments.com
TA Instruments’ Training Courses

Registration Form

Mail to  belgium@tainstruments.com or  netherlands@tainstruments.com
or fax to +32-2-7060081

Name :
Company :
Department :
Address :
ZIP Code :  City :
Phone :  Fax :
E-mail :

I want to register for the theoretical DSC training on  
- March 1-2, 2011, in Zellik
- June 7-8, 2011, in Zellik
- November 15-16, in Zellik

I want to register for the practical DSC training on  
- February 7, 2011, in Zellik
- September 6, 2011, in Zellik

Registration fee for the course:

- Free of charge (user of new equipment)
- Free of charge (academic, premium or lifetime support plan)
- 1500 Euro (2-days course)
- 1000 Euro (1-day course)
- University / school discount (100 Euro per day)

As a confirmation of your registration you will receive at latest a week prior to the course a road description to our application lab.
Thermogravimetric Analysis (TGA)

Program

Two types of TGA training courses are available. The practical TGA training is mainly hands-on, and is designed for the operator of the instrument. Focus is on optimum use of the equipment; calibration and maintenance are major topics. The theoretical TGA training is lecture based. It is designed to help the researcher/lab manager in choosing optimum measurement conditions and performing interpretation of the results. Moreover, a general overview of the use of TGA in multiple fields is presented.

Practical TGA Training

This training is mainly hands-on and designed for the operator to get the most out of his TGA. Equipment covered: Q5000IR, Q500, Q50, 2950, 2050 TGA.

09.15 – 09.30  Registration – coffee

09.30 – 12.30  Introduction technique and instrumentation
  Calibration of mass, temperature, autosampler & verification
  Optimisation and importance of baseline
  Choice of purge gas, flow rate, pan type
  Design of experimental method
  Tips for optimum use of data analysis software

12.30 – 13.30  Lunch

13.30 – 16.30  Maintenance of the TGA:
  Removing and cleaning a dirty furnace
  Replacing the hangdown wire and hangdown loop
  Replacing the thermocouple
  Maintaining the heat exchanger
  Installing the EGA interface

16.30 – ….  Question session
Theoretical TGA Training

This training is lecture based and designed to provide a general review on the importance of experimental parameters, different applications and operating modes of the TGA. This training is to a big extent brand independent.

09.15 – 09.30  Registration – coffee

09.30 – 12.00  Introduction technique and instrumentation
               Calibration: theory
               Optimisation of experimental conditions
               Typical applications (thermal stability, compositional analysis)

12.00 – 13.00  Lunch

13.00 – 16.00  Hi-Res™ TGA:
               Introduction
               Different modes and their application domain
               Choice of parameter settings
               Applications
               Modulated™ TGA, Kinetics:
               Theory
               Choice of experimental conditions
               Applications
               TGA-EGA:
               Principle (coupling to MS, FTIR)
               Applications
               Tips for optimum use of data analysis software

16.00 – ….  Question session
Practical Information

Location: Application lab TA Instruments
Brusselsesteenweg 500, 1731 Zellik (B)

Language: The course language is English.

Notes: Notes are provided at the start of the day.

Registration fee: Registration fee is 750 Euro (theoretical) or 1000 Euro (practical) per day per person.
Lunch is included.
Participation is free of charge for users who recently bought new equipment, with a maximum of 2 persons (excluding optional hotel fare). Participation is also free of charge for customers with an Academic, Premium or Lifetime Support Plan.
Universities / schools receive 100 Euro discount on the registration fee.
An invoice for course registration (if applicable) will be send after the course.

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Department :

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E-mail :

I want to register for the theoretical TGA training on  April 28, 2011, in Zellik

I want to register for the practical TGA training on  April 27, 2011, in Zellik
  September 14, 2011, in Zellik

Registration fee for the course:

☐ Free of charge (user of new equipment)

☐ Free of charge (academic, premium or lifetime support plan)

☐ 1000 Euro (practical training)

☐ 750 Euro (theoretical training)

☐ 100 Euro discount (University / school only)

As a confirmation of your registration you will receive at latest a week prior to the course a road description to our application lab.
Dynamic Mechanical Analysis (DMA)

Program

DMA Training, 2 days

*This training provides an introduction to the DMA technique and its applications. It is designed for the new operator to get the most out of his DMA. It is a combination of theory and hands-on operation. Equipment covered: Q800 and 2980 DMA.*

Day 1

09.15 – 09.30 Registration – coffee

09.30 – 12.00 Terminology, introduction to linear viscoelastic theory
   Instrument design
   Modes of operation and when to use them

12.00 – 13.00 Lunch

13.00 – 16.00 When to use a particular clamping configuration
   Experimental considerations

Day 2

09.15 – 09.30 Registration – coffee

09.30 – 12.00 Calibration: instrument and temperature
   Applications with various types of clamps

12.00 – 13.00 Lunch

13.00 – 16.00 Applications with various types of clamps (continued)
   Tips for optimum use of data analysis software

16.00 – …. Question session


**Practical Information**

**Location:** Application lab TA Instruments  
Brusselsesteenweg 500, 1731 Zellik (B)

**Language:** The course language is English.

**Notes:** Notes are provided at the start of the day.

**Registration fee:** Registration fee is 1500 Euro for the 2 days per person.  
Lunch is included.  
Participation is free of charge for users who recently bought new equipment, with a maximum of 2 persons (excluding optional hotel fare). Participation is also free of charge for customers with an Academic, Premium or Lifetime Support Plan.  
Universities / schools receive 200 Euro discount on the registration fee.  
An invoice for course registration (if applicable) will be send after the course.

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Department :

Address :

ZIP Code :  City :

Phone :  Fax :

E-mail :

I want to register for the DMA training on

- [ ] March 22-23, 2011, in Zellik
- [x] September 27-28, 2011, in Zellik

Registration fee for the course:

- [ ] Free of charge (user of new equipment)
- [ ] Free of charge (academic, premium or lifetime support plan)
- [ ] 1500 Euro
- [ ] 1300 Euro (University / school only)

As a confirmation of your registration you will receive at latest a week prior to the course a road description to our application lab.
Modulated DSC (MDSC)

Program

Two types of Modulated DSC training courses are available. The practical MDSC training is mainly hands-on, and is designed for the operator of the instrument. The theoretical MDSC training is lecture based. It is designed to help the researcher/lab manager in choosing optimum measurement conditions and performing interpretation of the results. Examples of the use of MDSC for various applications and to study different types of transitions are covered.

Practical MDSC Training

09.15 – 09.30  Registration – coffee

09.30 – 12.00  Introduction instrumentation
   MDSC calibration
   Design of an experimental method
   Sample preparation and set-up of experiments

12.00 – 13.00  Lunch

13.00 – 16.00  Interpretation of the results
   Use of data analysis software

16.00 – ….  Question session

There is a fair chance for participants to measure their own samples during this hands-on training.
Theoretical MDSC Training

09.15 – 09.30  Registration – coffee

09.30 – 12.00  Advantages of MDSC in comparison with conventional DSC
               Calibration of Modulated DSC
               Optimisation of experimental conditions for MDSC (purge gas, sample
               preparation, choice of pan type, modulation parameters and heating rate)

12.00 – 13.00  Lunch

13.00 – 16.30  MDSC data interpretation
               - glass transition region
               - influence of experimental conditions in the melting region
               Special measuring conditions and data analysis
               - thermal conductivity
               - stepwise quasi-isothermal
               - phase angle
               - Lissajous figures

16.30 – ….  Question session
**Practical Information**

**Location:** Application lab TA Instruments  
Brusselsesteenweg 500, 1731 Zellik (B)

**Language:** The course language is English.

**Notes:** Notes are provided at the start of the day.

**Registration fee:** Registration fee is 750 Euro per day per person.  
Lunch is included.  
Participation is free of charge for users who recently bought new equipment, with a maximum of 2 persons (excluding optional hotel fare). Participation is also free of charge for customers with an Academic, Premium or Lifetime Support Plan.  
Universities / schools receive 100 Euro discount on the registration fee.  
An invoice for course registration (if applicable) will be sent after the course.

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Department :

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E-mail :

I want to register for the theoretical MDSC training on    March 29, 2011, in Zellik

I want to register for the practical MDSC training on    June 28, 2011, in Zellik

Registration fee for the course:

☐ Free of charge (user of new equipment)

☐ Free of charge (academic, premium or lifetime support plan)

☐ 750 Euro

☐ 650 Euro (University / school only)

As a confirmation of your registration you will receive at latest a week prior to the course a road
description to our application lab.
Rheology (basic)

Program

This 2-days basic training is designed for the user to get a maximum out of his rheometer. It is a mixture between theory and practice.

Day 1

09:45 – 10:00  Registration - Coffee

10:00 – 13:00  Introduction to rheology, terminology and measuring systems

Introduction to flow

Practical Session
- Setting up an instrument
- Review of calibrations
- Flow experiments

Introduction to viscoelasticity and creep

13:00 – 14:00  Lunch

14:00 – 17:00  Practical Session
- Creep experiments

Introduction to dynamic techniques
- Linear Viscoelasticity
- Frequency sweeps

Practical Session
- Dynamic tests (part 1)
**Day 2**

This day is dedicated to delegates putting into practice what they have learnt. Time is also available for informal discussions regarding existing or future projects.

08:45 – 09:00  Registration - Coffee

09:00 – 13:00  Remaining dynamic techniques
   •  Structure and structure recovery
   •  Cures (time and temperature ramps)

**Practical session – dynamic tests (part 2)**

Informal Q&A session based on customer’s own type of samples
   •  what are the tests you should use?

**Practical session**

13:00 – 14:00  Lunch

14:00 – 15:30  Practical session
Practical Information

Location: Application lab TA Instruments
         Brusselsesteenweg 500, 1731 Zellik (B)
         Mon Plaisir 12A, 4879 AH Etten-Leur (NL)

Language: The course language is English.

Notes: Notes are provided at the start of the day.

Registration fee: Registration fee is 1500 Euro for the 2 days per person.
                  Lunch is included.
                  Participation is free of charge for users who recently bought new
                  equipment, with a maximum of 2 persons (excluding optional hotel
                  fare). Participation is also free of charge for customers with an
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E-mail :

I want to register for rheology training on

[ ] March 24-25, 2011, in Zellik
[ ] October 6-7, 2011, in Etten-Leur

Note that the indicated course location might be subject to changes.

Registration fee for the course:

[ ] Free of charge (user of new equipment)
[ ] Free of charge (academic, premium or lifetime support plan)
[ ] 1500 Euro
[ ] 1300 Euro (University / school only)

As a confirmation of your registration you will receive at latest a week prior to the course a road description to our application lab.
Software Training (Universal Analysis)

Program

Software Training

This training is designed to help the operator in using the more advanced features of TA Instruments’ Universal Analysis software, including the use of Macro’s for autoanalysis of data files, creation of custom reports, and many other features. Universal Analysis software is used for analysis of DSC, MDSC, TGA, SDT, TMA and DMA data.

09.15 – 09.30  Registration – coffee

09.30 – 12.00  Instruction of UA software capabilities

12.00 – 13.00  Lunch

13.00 – 16.00  Hands-on of UA software capabilities
Practical Information

Location: Application lab TA Instruments
Brusselsesteenweg 500, 1731 Zellik (B)

Language: The course language is English.

Notes: Notes are provided at the start of the day.

Registration fee: Registration fee is 750 Euro per day per person. Lunch is included.
Participation is free of charge for users who recently bought new equipment, with a maximum of 2 persons (excluding optional hotel fare). Participation is also free of charge for customers with an Academic, Premium or Lifetime Support Plan.
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Name :

Company :

Department :

Address :

ZIP Code : City :

Phone : Fax :

E-mail :

I want to register for software training on September 7, 2011, in Zellik

Registration fee for the course:

☐ Free of charge (user of new equipment)

☐ Free of charge (academic, premium or lifetime support plan)

☐ 750 Euro

☐ 650 Euro (University / school only)

As a confirmation of your registration you will receive at latest a week prior to the course a road description to our application lab.