

Seminar program: Day 1 (April 23) in the Abel meeting room

- 08:00 – 08:45** **Registration with coffee/tea.** *In the Cafeteria area near Abel meeting room.*
- 09:00 – 09:15** **Welcome and introduction, Rune Hofsløkken (NMAS).** *Abel meeting room.*
- 09:15 – 10:00** **Erwin Telser (Büchi Glas Uster)**
Review of glass reactor units for small and pilot scale batch syntheses from 5L to 250L
- Minipilot, Midipilot, Compact reactors and Chemreactors
- 10:00 – 10:30** **Erwin Telser (Büchi Glas Uster)**
Review of pressure reactors from laboratory to production systems from 10mL to 200L
- Small scale 10mL to 300 mL / 10bar to 100bar
 - Mid scale 0.5L to 20L / 6bar to 200bar
 - Large scale 30L to 200L / 100bar
 - High pressure/temperature 0.1 to 5L / 200bar to 500bar / 300°C to 500°C
 - Non metallic 10mL to 20L / 6 bar to 100bar
- 10:30 – 10:45** **Coffee/tea and fruit.**
- 10:45 – 11:00** **Erwin Telser (Büchi Glas Uster)**
Review of filter reactors for solid phase synthesis.
- solutions for HP API research and production
 - solutions for peptide synthesis and other fields
- 11:00 – 12:00** **Erwin Telser (Büchi Glas Uster)**
Review of sample preparation, workup and cleaning solutions.
- Nutsch filters, Stirrer filters, Mixing, Extraction, CIP and Scrubbers
- 12:00-12:45** **Lunch break**
- 12:45 – 13:30** **Erwin Telser (Büchi Glas Uster)**
Important aspects to consider when planning a batch synthesis for laboratory to pilot scale applications. Review of material choices, heating/cooling, pressure, vacuum, cleaning, automation, ATEX conformity, safety regulations and more.
- 13:30 – 13:45** **Jacek Thomann (Huber)**
The basics of thermal transfer and temperature control
- 13:45 – 14:30** **Jacek Thomann (Huber)**
Review of temperature control solutions for laboratories and production processes.
- Water Baths, Thermostats, Chillers, Circulators and Dynamic temperature control systems

14:30 – 14:45 **Coffee/tea, refreshments and snacks**

14:45 – 15:15 **Jacek Thomann (Huber)**

Real Case Studies covering high precision circulation thermostats and state-of-the-art circulation coolers (chillers) for laboratory and production reactors

15:15 – 16:00 **Q&A discussions and site visit to Polypure production facilities**

- We will divide into groups of 5 and visit Polypure's production facilities (Process lab 1 and Process lab 2) to see several Büchi process reactors (15L, 30L, 60L and 100L) with Huber circulation thermostats and Vacuubrand "chemistry type" vacuum pumps. Remember to bring your own safety glasses with you.
- The participants waiting for their turn will remain in the Abel meeting room and be shown a Syrris Orb laboratory reactor, Büchi "miniclave" and "tinyclave" pressure reactors and a Huber "ministat 230" heating/cooling circulation thermostat.
- The different groups will rotate after approximately 15 minutes.

Seminar program: Day 2 (April 24) in the Abel meeting room

- 09:00 – 09:30** **Erwin Telser (Büchi Glas Uster) - Abel meeting room.**
Quick review of day 1 : Preparation → Reaction → Finish → Storage → Environment
- 09:30 – 10:15** **Erwin Telser (Büchi Glas Uster)**
Review of glass reactor applications that are used for research, development and production purposes. Real examples covering Agrochemicals, Pharma, Fine Chemicals, Polymer Additives and more will be discussed
- 10:15 – 10:45** **Erwin Telser (Büchi Glas Uster)**
Review of pressure reactor applications that are used for Polymerization, Catalyst Testing, Pulp and Paper, Clean Room, and more.
- 10:45 – 11:00** **Coffee/tea and fruit.**
- 10:00 – 12:00** **Sebastian Sewing (Systag)**
Review of PC-based process control system for automation of batch reactors
- Important aspects to consider when doing automated process control of temperature, stirring, dosage, vacuum, pH control, inertization, hydrogenation, data logging, reaction calorimetry, etc
 - Live demonstration of “FlexyCUBE” reactor with “FlexySys” automation software
- 12:00 - 12:45** **Lunch break**
- 12:45 – 13:30** **Erwin Telser (Büchi Glas Uster)**
Review of industry standard process control system for batch reactors.
- 13:30 – 13:45** **Coffee/tea, refreshments and snacks**
- 13:45 – 15:45** **Q&A discussions and new site visit to Polypure production facilities**
1. We will again divide into groups and visit Polypure’s production facilities (Process lab 1 and Process lab 2) and demonstrate a number of process procedures using Polypure’s process reactors, mixing vessels, circulation thermostats and vacuum pumps. Remember to bring your own safety glasses with you.
 2. The participants waiting for their turn will remain in the Abel meeting room and be allowed to work with the Systag “FlexyCUBE” automated reactor with the “FlexySys” PC-control system, the Syrris Orb laboratory reactor, the Büchi “miniclave” and “tinyclave” pressure reactors and the Huber “ministat 230” circulation thermostat.
- 15:45 – 16:00** **Final discussions, round up and evaluation, Rune Hofsløkken (NMAS).**

How to get to Polypure AS (Technopolis Fornebu) Martin Linges vei 25, 1364 Fornebu.

Fornebu is a short distance from Oslo and is close to airport trains and public transportation.

By car:

Take the exit to Fornebu at Lysaker and follow Snarøyveien towards Snarøya until you pass Fornebuporten and Telenor Arena. At the roundabout, take the third exit to the right and follow Snarøyveien past the Telenor building. At the next roundabout, take the third exit to the right and follow Rolfsbuktsveien.

On Rolfsbuktsveien, take the first left onto Martin Linges vei, where you will pass Scandic Fornebu on your right. Drive straight ahead at the roundabout at the end of the road to reach the parking garage. Inside the reception of Technopolis there are signs for the event.

Bus:

There are good public transport options to Technopolis. There are frequent bus departures from Oslo city center via Lysaker, which takes about 25 minutes. Once you have arrived at Lysaker, take bus no. "31 Snarøya" towards Fornebu. Due to work on the Fornebu line, the nearest bus stop (IT Fornebu) has been removed, so get off at either Telenor Fornebu or Fornebu Vest. Then walk from Telenor Fornebu (approx. 11 minutes) or from Fornebu Vest (approx. 3 minutes) to the Circle-K station and behind the station you will see another building with Entrance marked with vertical red text. Once inside the Technopolis building, follow the sign to the event.

Train:

If you arrive by train, get off at Lysaker station and take bus no. "31 Snarøya", see above.

Welcome to Technopolis Fornebu !

Polypure AS, Martin Linges vei 25, 1364 Fornebu

Telephone to Rune Hofsløkken (NMAS) 922 61 864

Telephone to Nikolai Enes (Polypure) 413 42 865

Hvordan komme seg til seminaret og Technopolis Fornebu?

Polypure AS, Martin Linges vei 25, 1364 Fornebu

Fornebu har kort avstand til Oslo og ligger nær flytog og offentlig kommunikasjon.

Bil:

Sving av til Fornebu ved Lysaker og følg Snarøyveien mot Snarøya til du passerer Fornebuporten og Telenor Arena. I rundkjøringen tar du tredje avkjøring til høyre og følger Snarøyveien videre forbi Telenorbygget.

I neste rundkjøring tar du tredje avkjøring til høyre og kommer til Rolfsbuktsveien. På Rolfsbuktveien tar du første veien til venstre på Martin Linges vei, hvor du vil passere Scandic Fornebu på høyre side. Kjør rett frem i rundkjøringen i enden veien for å komme ned til parkeringshuset.

Inne i resepsjonen til Technopolis er det skiltet til arrangementet.

Buss:

Det er gode kollektivmuligheter til Technopolis. Det er hyppige bussavganger fra Oslo sentrum via Lysaker som tar ca. 25 minutter. Når du har kommet til Lysaker tar du buss nr. «31 Snarøya» mot Fornebu. P.g.a. arbeid med Fornebubanen er den nærmeste bussholdeplassen (IT Fornebu) fjernet, så gå av på enten Telenor Fornebu eller Fornebu Vest. Gå deretter fra Telenor Fornebu (ca. 11 minutter) eller fra Fornebu Vest (ca. 3 minutter) til Circle-K stasjonen og bak stasjonen vil du se et annet bygg med **Inngang** markert med vertikal rød tekst.

Når du er inne i Technopolis bygget følger du skiltet til arrangementet.

Tog:

Kommer du med tog, går du av på Lysaker stasjon og tar buss nr. «31 Snarøya», se over.

Velkommen til Technopolis Fornebu !

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