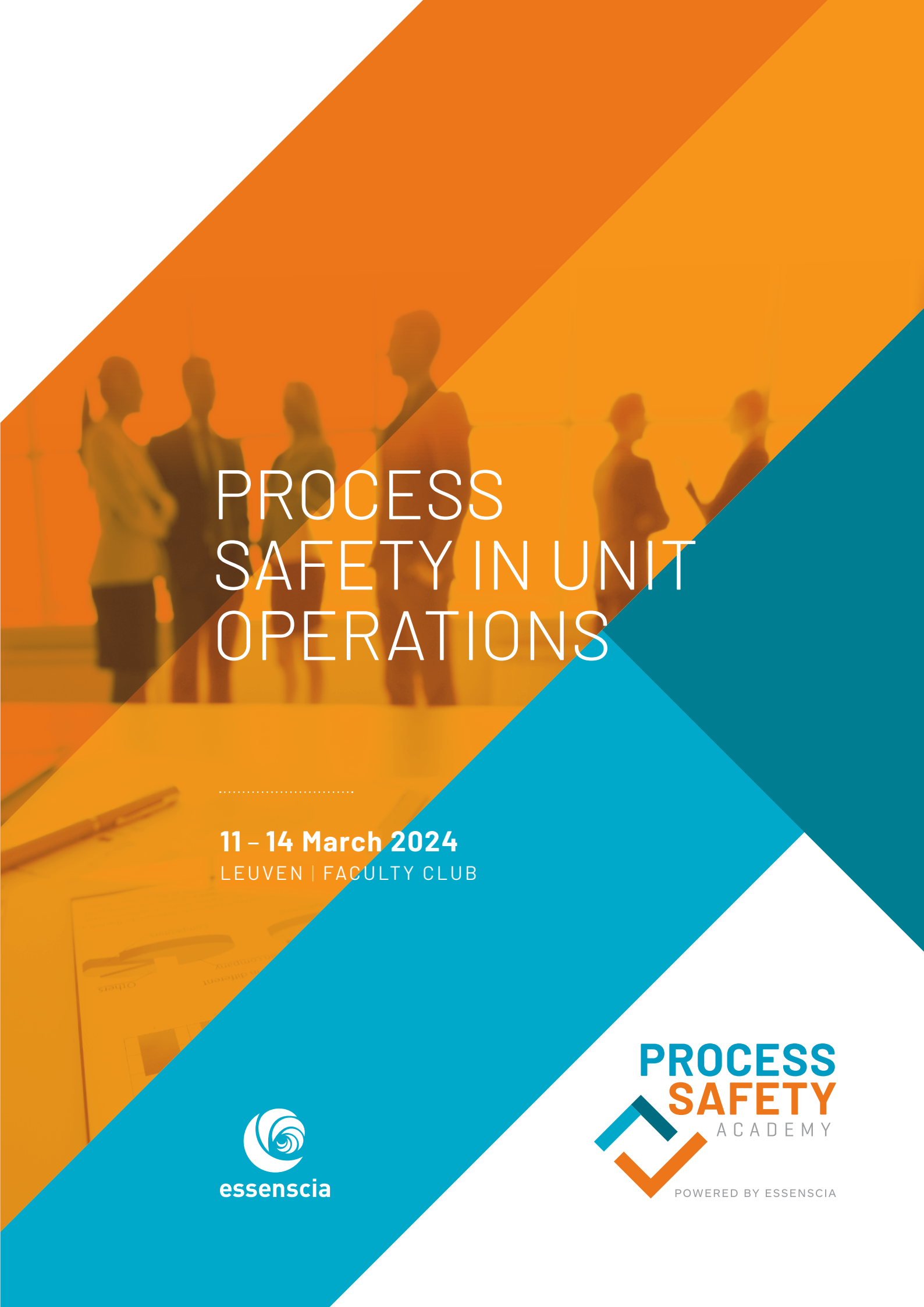

PROCESS SAFETY IN UNIT OPERATIONS

11 – 14 March 2024

LEUVEN | FACULTY CLUB

essenscia

PROCESS SAFETY ACADEMY

POWERED BY ESSENSCIA

11 - 14.03.2024
FACULTY CLUB
LEUVEN

DEAR MEMBER,

essenscia would like to present the details of the Specialized Course on Process Safety in Unit Operations organized by Process Safety Academy, essenscia and the essenscia Chair Safety Engineering. For additional information concerning these topics please feel free to contact **Mr. Geert Boogaerts** (+32 476 906 663 | gboogaerts@essenscia.be)

The level and quality of process safety management determines the success of an organization. This course offers the essentials of process safety engineering.

Programme

Process safety is a specific discipline within the organization of a company. The level and quality of process safety management determines the success of the organization. Process Safety Academy aims, with this 4-day Specialized Course on Process Safety in Unit Operations, to provide professionals with a process safety course offering the essentials of process safety engineering. The lectures are taught by specialists in their discipline. For each day a syllabus is provided by the organization and a certificate will be granted at completion of the course. Additionally for all the participants a text book "Guidelines for Engineering Design for Process Safety" is provided.

The governance board and steering committee of essenscia Process Safety Academy

- **MSc. Ivan Pelgrims**, President Process Safety Academy, Director, Evonik
- **MSc. Koen Colpaert**, HSE Group Process Safety Manager, Borealis
- **MSc. Benny Ghoos**, Senior Operations Support Manager, Johnson & Johnson
- **MSc. Nico Hertoghe**, ExxonMobil Research & Engineering
- **Phd. MSc. Pol Hoorelbeke**, Vice president Safety, Total
- **MSc. Marnix Mahieu**, Managing Director, Kronos
- **MSc. Inge Van Der Meeren**, AMPP Plant Manager ExxonMobil
- **MSc. Frank Quaeyhaegens**, Head of Technical Services, Covestro
- **MSc. Stephen McGrady**, EHS BL Director – GSK UK
- **MSc. Geert Vercruysse**, Process Safety Expert, BASF
- **MSc. Jan Weckx**, Antwerp Process Safety Lead, Bayer Agriculture
- **MSc. Filip De Proft**, EHS director Campus Belgium, Johnson & JohnsonAgriculture
- **MSc. Kris Deboutte**, Global SHE Manager, Ineos
- **MSc. Gunther Van Cauwenberge**, Managing Director Lanxess Performance Materials JV Envalior
- **MSc. Ignace Hooftman**, Managing Director Lanxess Belgium

Attendees

Professional engineers with industry experience for whom understanding and applying process safety thinking is an integral part of their jobs and who would benefit from an engineering view on process safety for deepening the expertise in their roles and for their career development (e.g. operations, engineering, maintenance, inspection, safety professionals...).

Lecturers

- **MSc. Eric Dom**,
  Process Safety Consultant, Nero
- **MSc. Nico Hertoghe**,
  Core Safety Engineering, ExxonMobil
- **PhD, MSc. Denis Mignon**,
  Polymers Process Specialist Total,
  Visiting Professor UCL
- **MSc. Geert Vercruysse**,
  Process Safety expert BASF,
  Visiting Professor KU Leuven and
  Ghent University

Aims

Process Safety Engineering plays an important part during the lifecycle of a process plant. Not only are important preventive and mitigating measures defined during the project phase, also during operations changes are introduced; near misses and incidents will occur. This all requires a fundamental knowledge of process safety concepts.

The lectures are built around some generic important process units within the chemical industry: batch and continuous reactors, distillation columns and storage tanks. Both will be presented in a generic way to indicate specific process safety engineering features.

In depth incident analysis with an engineering root cause or as solution are presented during the first day together with the concept and the proofed added value of intrinsic safe design. During the second day a theoretical course on calculating relief valves is taught, followed by a practical workshop.

The third day is built up around the set-up and interpretation of the instrumentational protection devices (IEC 65111). The instrumentational protection guidelines are discussed and interpreted from a theoretical, practical and organisation level supported by evidence based examples, interpretation and applications.

The fourth day is focussing around a key operation for every chemical company, namely storage of chemicals from an engineering point of view. A plant visit to a life installation brings the theory into practice.

This course is included in Master of Safety Engineering at the KULeuven and has a student's evaluation of 4,8/5.

www.essenscia.be

HOST CITY
Leuven

LOCATION
Faculty Club
Groot Begijnhof 14
www.facultyclub.be

LUNCH
3 courses business menu

TOTAL REGISTRATION FEE
€ 2000

11 – 14.03.2024
FACULTY CLUB
LEUVEN

DAY TO DAY OVERVIEW OF THE PROGRAMME :
08:30 – 17:30

DAY 01

1

MONDAY 11 MARCH 2024

Chemical Reactors

Welcome speech
Geert Boogaerts, Senior Advisor Process Safety, essenscia
Why to start with engineering ?

Introduction to process safety design
Geert Vercruysse, Process Safety expert BASF, Visiting Professor KU Leuven and Ghent University
Lessons learned from incidents – The build-up of a process safety concept

Inherent safe design & case studies
Nico Hertoghe, Core Safety Engineering, ExxonMobil
Incorporation of intrinsic safe elements in design engineering

DAY 02

2

TUESDAY 12 MARCH 2024

Mechanical safeguarding

Scenario selection and boundary conditions – A distillation column as an example
Geert Vercruysse, Process Safety expert BASF, Visiting Professor KU Leuven and Ghent University
A common and broad unit operation – safety engineering

Detailed design of a relief valve (API 521)
Denis Mignon, Polymers Process Specialist Total, Visiting Professor UCL
Towards a correct calculation. Every scenario included ?

Case studies: workshop calculation of relief valves
Sadat Homayouni, Shirin & Gaëlla Delcour, Experts, Sweco
Can we calculate everything?

DAY 03

3

WEDNESDAY 13 MARCH 2024

E & I in Process Safety Engineering

From alarm towards controller and/or interlock
Geert Vercruysse, Process Safety expert BASF, Visiting Professor KU Leuven and Ghent University
Including learning from incidents

Detailed design of an instrumentational interlock (IEC65111)
Erik Dom, Process Safety Consultant, Nero
Inspired by the process risks ? An operational point of view

Case studies: workshop calculation of instrumentational interlocks
Erik Dom, Process Safety Consultant, Nero
How to attach theory towards the real life ?

DAY 04

4

THURSDAY 14 MARCH 2024

Storage tank

Process safety aspects around storage
Geert Vercruysse, Process Safety expert BASF, Visiting Professor KU Leuven and Ghent University
A simple operation ?

Site visit at ITC Rubis Terminal Antwerp
Pascal De Maeijer, CEO, ITC Rubis Terminal Antwerp
A real life visualization

LIMITATION: This Specialized Course is limited to 20 participants.
A high level of interaction is foreseen.

SUBSCRIPTION FILE

The essenscia Process Safety Academy and the essenscia Chair Safety Engineering organize a 4-day Advanced Course on Process Safety.

PARTICIPANT

FIRST NAME

LAST NAME

EMAIL

COMPANY

FUNCTION

◯ Member of Process Safety Academy ◯ Member of essenscia

THE INVOICE OF €2000 (TOTAL REGISTRATION FEE, EXCL. VAT) CAN BE SENT TO

COMPANY

STREET AND NUMBER

POSTAL CODE AND CITY

V.A.T.

PURCHASE ORDER

SIGNATURE OF THE PARTICIPANT

To be sent by mail
to **Ms. Michèle Celis** (mcelis@essenscia.be)
For additional information please feel free to contact
Mr. Geert Boogaerts (+32 476 906 663 | gboogaerts@essenscia.be) or
Ms. Michèle Celis (mcelis@essenscia.be).

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where chemistry meets life sciences

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