Gas Processors Association – Europe
promoting technical and operational excellence throughout the European Gas Industry
Phone +44 1262 625 542 fax + 44 (0) 1252 786260 email admin@gpaeurope.com

FREE*

Young Professional Training Day
March 15, 2018

IFP Energies nouvelles, Rueil-Malmaison, Paris

IFP Energies nouvelles,
Séquoia Amphitheater
1 avenue de Bois Préau,
92500 Rueil-Malmaison,

*Free for students and employees of member companies. Non-members are welcome to attend at a charge

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Introduction

For the fourth GPA Europe Young Professional Training Day and in conjunction with the IFP School, GPA Europe is returning to IFP Energies nouvelles at Rueil-Malmaison. The meeting which has proved very popular over the last three years in Manchester and in Rueil-Malmaison will again bring excellent training experience from industry to Young Professionals and Students interested in the Natural Gas Industry.

The Training Day has been developed in line with requests from Young Professionals to address a number of key topics. A key message from the past events was that the audience particularly appreciated the direct industry experience of Natural Gas Processing that the meeting provides, rather than theoretical information.

The programme will provide background information on key issues of technology – Gas Treating, Low Temperature Process Design Principles and design of Gas Processing Plants for extreme ambient operation and will be opened with an up to the minute analysis of the current state of the Natural Gas Industry in Europe from John Sheffield, ex-Chairman and an Honorary member of GPA Europe Ltd. who is an expert in the latest global developments of natural gas and LNG.

All attendees will receive a Certificate confirming their attendance at the training event which can be provided as evidence of Continuing Professional Development.

Who should attend?

Young Professionals who have recently joined the Natural Gas Processing industry

Students considering Natural Gas Processing as a career

Engineers wishing to update their knowledge of specific aspects of Natural Gas Process design.

What is Included?

Coffee on arrival, mid-morning and mid-afternoon, copies of presentations on USB disc, lunch, and a free Bar at end of the afternoon

What does it Cost?

NOTHING.

GPA Europe will fund this meeting for employees of member companies and students as part of its continuing commitment to Young Professional training and as a means of introducing young engineers and students to the benefits the Gas Processors Association can bring them as their career progresses.

PLEASE NOTE THAT THE NUMBER OF DELEGATES IS LIMITED TO 85 DUE TO SPACE LIMITATIONS. **BOOK EARLY TO AVOID DISAPPOPINTMENT**. IF BOOKINGS EXCEED THIS LIMIT A WAITING LIST WILL BE OPENED AND SPACES, BECOMING AVAILABLE, WILL BE REALLOCATED TO THE WAITING LIST IN ORDER OF RECEIPT.

Delegates from non-member companies are welcome to attend for a fee of £ 100.00

Accommodation is not included but there several convenient hotels in the vicinity.

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GPA EUROPE – YOUNG PROFESSIONAL TRAINING DAY
15 MARCH 2018
PROGRAMME

	Morning Session Chairman:
BACKGROUND	
0900	**Overview of Global Natural Gas Industry** *John Sheffield* Whilst oil remains the dominant fuel in Africa and the Americas, Natural Gas dominates in Europe and the Middle East and Coal is the predominant fuel in Asia Pacific accounting for nearly 50% of energy consumption. But driven by the worlds ever increasing demand for power, the proportion of natural gas in the energy mix is increasing. However, with the ever-increasing use of renewable energy encouraged by subsidies and falling costs, the mechanics of the natural gas commercial structures discourage the use of natural gas as the logical transition fuel. This paper will briefly outline the key characteristics of natural gas and examine the global uses of gas with particular emphasis on the development of use of gas as a transportation fuel.
FLOW ASSURANCE	
0940	**Gas dominated systems: main flow assurance challenges for design and operability** *Martin Gainville, IFP* The design and operability of gas production systems relate to several flow assurance challenges. In the deep-offshore context, the management of liquid content during transient operations of the export lines and the hydrate prevention strategy are key elements. At a time when capital expenditures are being cut, the production operability margins are also being cut. New technologies as well as effective production monitoring solutions have to be considered to optimize the process and to prevent risks. As part of these solutions, heat-line technologies or the use of low-dosage hydrate inhibitors offer new opportunities for safely operating gas fields at lower costs.
1010	**Management of Flow Assurance Constraints in a Fast-Track Gas Development** *Eduardo Luna-Ortiz, Pace Flow Assurance* In this presentation, we show how a flow assurance design matured from Concept to Execution of a gas Early Production Scheme (EPS), noting the key change of information and the impact on the design. The project schedule is fast-track. In order to meet and accelerate the schedule, the EPS is being developed with market-led solutions (i.e. custom designs but assembled from qualified off-the-shelf components). The main objective of the Flow Assurance analysis was to confirm the steady-state and transient operability of the system within the selected equipment design envelopes. From the Flow Assurance perspective, the key challenges encountered in this fast-track EPS development were: • Early fluid (PVT) definition; • Thermodynamic behaviour of a HP/HT reservoir fluid (particularly inverse Joule-Thomson effects); • Definition of the required fortified zone and HIPPS trip settings to protect the lower pressure rated existing facilities while maximising arrival pressure to avoid compression; • Liquid holdup management becomes challenging during transient operations (particularly ramp-up) due to the limited handling capacity at WH; • Impact on pipeline operation due to limitation in MEG storage • Problematic wax deposition identified after the subsea design was finalised
1040	**Coffee Break**

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GAS TREATMENT	
1120	**Fixed Bed Absorbent Systems – Design Best Practice** *Peter Martin, Raul Llorens, Panayiotis Theophanous, Johnson Matthey* Fixed bed absorbent technologies are commonly used for natural gas purification in a variety of applications. These can be regenerable or non-regenerable depending on the contaminant being removed and the specific duty. For non-regenerable absorbents such as PURASPEC$_{JM}$™, H2S and Mercury removal are amongst the most frequently seen applications on a Gas Processing Plant. Whilst these technologies exhibit durability and robust performance in a range of operating conditions and fluid compositions, there are several operational issues which could impact on long term performance. This presentation will take a general look at troubleshooting common issues for fixed bed absorbents and address possible mitigation methods to consider during operation and at design stages to avoid problems in future.
1150	**CO_2 Removal on Amines – Important Design Issues to Consider** *Matt Bailey, Optimized Gas Treating* Bulk carbon dioxide removal applications, typified by carbon capture but also encompassing removal from sweet high CO2 gases to meet pipeline specifications, are often carried out by limiting the solvent flow to control the extent of removal. Absorber performance is set by keeping the rich solvent fully saturated and using the solvent flow rate to limit removal. Such an absorber is called rich end pinched as seen in a mass transfer rate model. On the other hand, when CO2 is to be removed to ppm residual levels such as in LNG production, the final gas purity is usually set by the lean solvent acid gas loading. If a column is incorrectly designed, however, or a gas stream is to be treated to some intermediate CO2 level, operating conditions can result in a column showing a bulge pinch. Failure to recognize pinching in the design phase may well result in failure of the plant to treat properly. In such situations, performance is controlled by the size and extent of the temperature bulge in the column, and using more trays or deeper packing may not result in any appreciable improvement. This paper analyses various pinch conditions with special emphasis on bulge pinches and when they occur, using a state of the art mass transfer rate model. Software will be described that optimizes the process to ensure optimal design.
1220	**Networking Lunch**
Afternoon Session Chairman:	
LOW TEMPERATURE PROCESSING DESIGN	
1400	**Low Temperature Process Design** *Adrian Finn, Costain* Low temperature gas processing and liquefaction is a major subject in natural gas processing. It enables the production of natural gas to specification for fuel or chemicals feedstock, extracts valuable components for sale and is used to produce liquefied natural gas (LNG) on which many countries depend for clean energy. Low temperature processes need cost-effective production of refrigeration and can be very large power consumers, especially for liquefaction. Good process design relies on understanding the relation between energy and power (or “work”) and process integration techniques for energy efficiency and optimisation. Natural gas liquids extraction and cryogenic nitrogen removal need efficient distillation and present further challenges in optimising separation and energy transfer. The principles of optimal process design will be discussed by examining some fundamental thermodynamic principles and process evaluation techniques (especially for multicomponent distillation). These techniques help screen and select designs prior to detailed process simulation. Industrial examples will be shown to demonstrate key equipment such as compressors, turbo-expanders and plate-fin heat exchangers.

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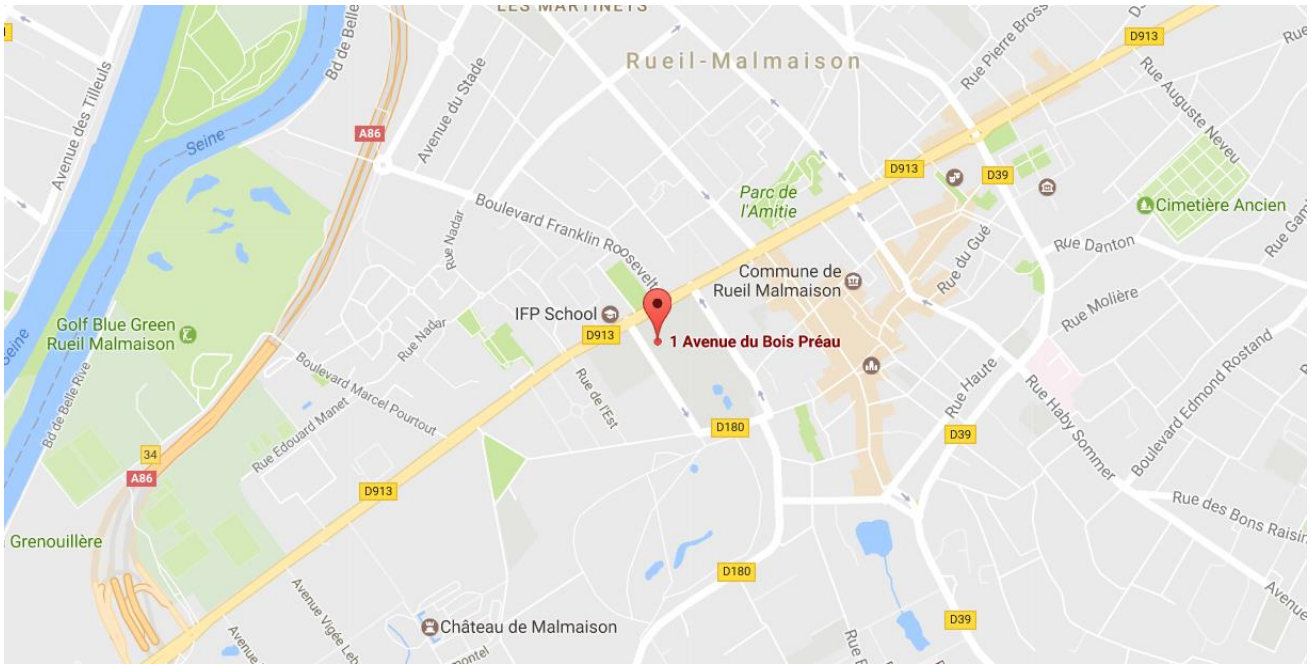
1450	**Coffee**
EXTREME AMBIENT DESIGN	
1520	**Commissioning Amine Plants in Extreme Environments** *Mike Sheilan, Philip le Grange, Ben Spooner, Amine Experts a division of Sulphur Experts International* Operating plants in extreme environments can present unique challenges. If these challenges are not accounted for and addressed in design and commissioning, the plant will not be able to start up and meet specification. This paper examines the challenges faced in commissioning three amine plants operating in diverse environments (extreme heat, extreme cold and offshore) and the technical and procedural solutions implemented to resolve them.
1600	**Design of an LNG Plant in Artic Conditions** *Sandra Thiebault, TechnipFMC* TechnipFMC has recently designed and build an LNG project in the challenging conditions of the Arctic region, which brought engineering practice beyond the usual boundaries. In our industry where innovation is often synonymous with a limited number of small steps forward, the challenges brought by this extreme project require first-of-a-kind technical solutions and the development of methodologies to manage new designs while keeping costs at a reasonable level. The harsh weather conditions, and difficult logistics make it even more important than usual to do it right first time. This article will explore the challenges, the solutions implemented, and the methodology put in place to ensure that smart ideas pulled out of the process engineers brains are translated into a flawless and efficient facility.
1645	**Round-up and Conference Close**

All Delegates and Presenters are invited to join the GPA Europe for a Free Bar at Café Leffe in Commune de Rueil-Malmaison from 1700 to 1900

LOCATION

Access to the meeting will be at IFP Energies nouvelles at 1 avenue de Bois Préaux. The nearest station is Gare Rueil-Malmaison on RER A from which it is a short 15 to 20 minute walk and there are number of bus stops close by.

By car, exit Peripherique at Porte Maillot, D 913 direction La Defénse – Saint-Germaine-en-Laye. A detailed map will be sent with confirmation of booking.



Registration Form for
Rueil-Malmaison Young Professional Training Day 15 March 2018

Please complete, save as pdf and send by email to Sandy Dunlop at GPA Administration Office (admin@gpaeurope.com) or by fax (+44 1252 786 260)

Title	First Name	Family/Surname
Preferred Name on Delegate Badge		
Preferred Company Name on Delegate Badge		

Company/University	
Job Title	
Address 1	
Address 2	
Town	
Region/State	
Zip/Post Code	
Country	
Email	
Phone (inc. Country Code)	
GPA E Member?	
Dietary Requirements	
Other Special Requirements	

This is a free meeting so there is no charge for employees of GPA Europe member companies or students. Non-member companies are charged a fee of £ 100 (€ 125) per attendee.

GPA Europe reserves the right to make a £ 50 (€ 55) Administration Charge **should you cancel attendance after 3 March 2018**.