

ADVANCED PRACTICAL CENTRIFUGAL PUMP

Reduce your cost by improving your pumps reliability, reducing power consumption and best pump selection !

20th - 24th April 2020 at Kuala Lumpur, Malaysia



Petrosync Lecturer

Glenn Rogers BEng MBA

Director of Dalyfan Pty Limited T/A Strategic Achievement

Case Studies,
Discussion, and many
Practical exercises!

Glenn has worked in the pump industry for more than 27 years. His experience has included senior roles in pump selection and application, system review, pump troubleshooting, contract/project management, sales and marketing and quality assurance. He has also worked as the executive director of United Pumps Australia.

Masterclass Overview

The over-riding aim of the pump and system training course is to reduce the costs associate with owning and running pumps.

Organizations spend millions running and repairing pumps. Nine out of ten pumps fails early. If we can improve reliability we can reduce the cost of owning pumps considerably.

Power is a major cost for any organization. If we can reduce the amount of power required to run our pumps, we can reduce the cost of owning them considerably.

This course will give attendees the ability to improve pump reliability and reduce power consumption and therefore make a huge difference to the organization's profitability.

PROGRAM SCHEDULE

08:10	Registration (Day1)
08:10 – 10:00	Session I
10:00 – 10:15	Refreshment & Networking Session I
10:15 – 12:30	Session II
12:30 – 13:30	Lunch
13:30 – 15:00	Session III
15:00 – 15:15	Refreshment & Networking Session II
15:15 – 16:00	Session IV
16:00	End of Day

*Schedule may vary for each training

Advanced Practical Centrifugal Pump

20th - 24th April 2020 at Kuala Lumpur, Malaysia

Masterclass Objectives

- ▶ Understand how the system controls the pump
- ▶ Learn how to read a pump curve and how pumps really operate
- ▶ Learn how the flowrate impacts on pump reliability – what is the reliable operating range
- ▶ Design better systems and select better pumps, leading to improved reliability
- ▶ Avoid operational problems that lead to pump failures
- ▶ Understand what cavitation is, why it occurs and how to avoid it
- ▶ Know how pumps should be installed and commissioned – avoid those common commissioning failures
- ▶ Learn why pumps vibrate and why seals and bearings fail
- ▶ Implement best practice in pump monitoring and maintenance
- ▶ Get to the root cause of pump failures and solve recurring problems

Specially Designed for

This course is very relevant of technical engineers and professionals who handle and are responsible for their organizations' pumps and systems; as well as the overall smooth operations and processes of their organizations' plants and machineries. These include, but not limiting to:

- ▶ Maintenance & Operation Engineers
- ▶ Pump Application Engineers
- ▶ Pump Sales Engineers
- ▶ Project & Construction Engineers
- ▶ Plant Engineers
- ▶ Process Engineers & Designers
- ▶ Engineering Consultants
- ▶ Mechanical Engineers
- ▶ System Designers
- ▶ Civil Engineers
- ▶ Rotating Equipment Engineers

Each attendee must bring a **Scientific Calculator**

▶ Petrosync Quality

Limited Attendees

The course has limited seats to ensure maximum learning and experience for all delegates.

Certificate of Attendance

You will receive a Certificate of Attendance bearing the signatures of the Trainer upon successful completion of the course. This certificate is proof of your continuing professional development.

Interactive Training

You will be attending training designed to share both the latest knowledge and practical experience through interactive sessions. This will provide you with a deeper and more long-term understanding of your current issues.

High Quality Course Materials

Printed course manual will provide you with working materials throughout the course and will be an invaluable source of reference for you and your colleagues afterward. You can follow course progress on your laptop with soft copies provided.

 Supported by


HEDGE CONNECTION
Where Hedge Funds and Investors Come Together


Worldoils


PETROFINDER
Oil & Gas Link


OilVoice




Petro Energy
WHERE TO INVEST IN OIL, GAS & ENERGY BUSINESS


CONFERENCE
locate.com


Energy
UPDATE

Advanced Practical Centrifugal Pump

20th - 24th April 2020 at Kuala Lumpur, Malaysia

Course Agenda

Day 1

1. Introduction

- Course Aims
- Pump Importance
- Pump Types
- Pump Performance
- Introduction to Pump Performance Curves

2. Pump Operating Principle

- Impeller operation and types
- Volute options
- Understanding the concept of 'Head'
- Introduction to the concept of 'Reliable Flowrate'

3. Systems Design / Pump Selection

- Determining the Flowrate
- Understanding System Resistance and
- Calculating System Head
Workshop Exercise – Calculating the System Resistance Curve
- How the System Controls the Pump Flowrate
- Dealing with system changes – change in tank levels, friction and pressure
- Reading the Pump Curve
- Selecting the Pump
Workshop Exercise – Selecting Pumps

Day 2

4. Controlling the Flowrate

- Control valve throttling
- Variable Speed Drives

5. Liquid Properties and Pump Performance

- Density
- Viscosity
- Solids
Workshop exercise – viscosity correction

6. Calculating Pump Performance for Speed or Impeller Diameter Changes

- Pump Affinity Laws
Workshop Exercise – Calculating pump performance with speed and impeller changes

7. Operating More Than One Pump in a System

- Pumps in parallel
- Pumps in series
Workshop Exercise – pumps in parallel, pumps in series

Day 3

8. Nett Positive Suction Head and Cavitation

- What's happening, what does it mean?
- Calculating NPSH Available
Workshop Exercise – Calculating NPSHA
- Troubleshooting Cavitation Problems
Workshop Exercise – Why is your pump cavitating?

9. Sealing Options

- Mechanical Seals and Gland Packing
- How they work
- Why they fail
- Different designs
- Flushing options

10. Pump Mechanical Construction Options

- Single stage vs Multi-stage
- Horizontal vs Vertical
- Casing options
- Impeller options
- API 610 requirements

IN-HOUSE SOLUTIONS

SAVE COST • IMPROVE PERFORMANCE • REDUCE RISK

PetroSync understands that in current economic climate, getting an excellent return on your training investment is critical for all our clients. This excellent training can be conducted exclusively for your organization. The training can be tailored to meet your specific needs at your preferred location and time. We will meet you anywhere around the globe.

If you like to know more about this excellent program, please contact on +65 3159 0800 or email general@petrosync.com

Advanced Practical Centrifugal Pump

20th - 24th April 2020 at Kuala Lumpur, Malaysia

11. Mechanical Construction vs Reliability

- Minimising axial forces
 - Minimising radial forces
 - Volute designs
 - Shaft design
 - Wearing rings and consumable components
 - Seal chamber design
 - Bearing arrangements
 - Bearing housing seals
 - API 610 requirements
- Workshop Exercises – Pump Modifications for High Pressure Applications and High Temperature Applications**

Day 4

12. Flowrate vs Reliability

- Low flow vs poor reliability
- High flow vs poor reliability
- Controlling the flowrate
- API 610 requirements

13. Pumps for Low NPSHA Applications

- The consequences of designing a system with low NPSHA
- Pump Types for low NPSHA systems

14. The Oil Industry Standard – API 610

- Understanding using API 610

15. Purchasing Reliable Pumps

- The mechanical specification
- The hydraulic specification
- Reviewing Bids and purchasing reliable pumps (not just cheap ones)
- **Workshop Exercise – Purchasing Reliable Pumps**

Day 5

16. Installation and Commissioning

- Piping layout and set-up
 - Pump installation
 - Start-up
 - Monitoring
- Workshop Exercise – Developing a Pre-start Check List**

17. Pump Maintenance

- The forgotten items of a pump overhaul
- Why pumps become less reliable as they get older
- Getting pumps back to 'as new' condition

18. Monitoring and Instrumentation

- The importance of monitoring
- **Workshop Exercise – What to Monitor?**
- How to keep our pumps reliable
- How to determine when the pump is getting worn and is in need of an overhaul

19. Troubleshooting Problems

- Using all topics noted above to work out why your pump is failing
 - The troubleshooting process
 - Typical problems and causes:
 - Seal failures
 - Bearing failures
 - High vibration
 - Shaft breakages
 - Internal touching or rubbing
- Case Studies and Troubleshooting Exercises**

20. Internal Wear and Loss of Performance

- Wear vs pump performance
 - Determining when your pump needs and overhaul
 - How system changes impact on pump performance
- Workshop – Why has your pump performance dropped?**

21. End Summary and Discussion

HYBRID TRAINING SOLUTIONS

FOCUS TRAINING • REDUCE COST • ENHANCED RESULTS

Over the years, there has been a growing demand for hybrid training programs. It is an excellent option to maximize your training dollar for your specific training needs. We make it possible to run a training program that is customized totally to your training needs at a fraction of an in-house budget!

If you like to know more about this excellent program, please contact us on +65 3159 0800 or email general@petrosync.com



Petrosync Lecturer

Glenn Rogers BEng MBA

Director of Dalyfan Pty Limited T/A Strategic Achievement

Glenn Rogers has previously worked for a major pump manufacturer and currently runs a successful pump training and consulting business. He runs pump and system training courses throughout Australia, Singapore, Thailand, Indonesia and Malaysia on a regular basis. He has been running Pump & System training courses for the past 18 years.

Glenn has worked in the pump industry for more than 27 years. His experience has included senior roles in pump selection and application, system review, pump troubleshooting, contract/project management, sales and marketing and quality assurance. He has also worked as the executive director of United Pumps Australia.

Glenn has previously worked for a major pump manufacturer and currently runs a successful pump training and consulting business. He runs pump and system training in Australia, South Africa, Ghana, United Arab Emirates, Singapore, Malaysia, Indonesia, New Zealand and Laos with more than 7,000 people from over 500 different companies have attended his training sessions.

Glenn also spent many years working with Singaporean and Malaysian companies on Strategy Development and Implementation. He therefore has a clear understanding of the need to make sure training has a positive impact on the bottom line.

Client List (Sample):

- SA Water
- Queensland Urban Utilities
- Singapore Petroleum
- Petronas
- Unocal
- Shell Refining
- BP Refineries
- ExxonMobil
- Caltex
- BHPBilliton
- Santos
- Fluor
- WorleyParsons
- TNB
- Singapore Petroleum Co
- Rio Tinto
- Singapore Petroleum Co
- Rio Tinto
- Water Corporation (Western Australia)
- Orica
- Alcoa World Alumina
- Kvaener
- Xstrata
- PowerSeraya
- PUB
- Queensland Alumina
- Yarra Valley Water
- Weir Minerals
- SA Water
- SKM
- And many more clients have included



WHY YOU SHOULD ATTEND PETROSYNC'S EVENTS

- To ensure that all objectives of the course matches yours, all PetroSync programs are developed after intensive and extensive research within the industry
- PetroSync programs focus on your immediate working issues to ensure that you are able to apply and deliver immediate results in real work situations
- Application and implementation of industry knowledge and experience are the drivers for our course design, not theoretical academic lectures
- PetroSync training focuses on practical interactive learning tools and techniques including case studies, group discussions, scenarios, simulations, practical exercises and knowledge assessments during the course. Invest a small amount of your time to prepare before attending the course to ensure maximum learning
- PetroSync follows a rigorous selection process to ensure that all expert trainers have first-hand, up-to-date and practical knowledge and are leaders of their respective industrial discipline

COURSE DETAILS

Title : Advanced Practical Centrifugal Pump
Date : 20th - 24th April 2020
Location : Kuala Lumpur, Malaysia

INVESTMENT PACKAGES

Please checklist the package that you are attending!

Advanced Practical Centrifugal Pump Schedule	Price
<input type="checkbox"/> 20 th - 24 th April 2020 at Kuala Lumpur, Malaysia	USD 3,595

* Price is nett excluding Withholding Tax if any and will be quoted separately. Please send us the withholding tax payment receipt.

* Prices include lunches, refreshments and training materials.

DELEGATE DETAILS

1st Delegate Name _____ Mr Mrs Ms Dr Others

Direct Line Number: _____ Email: _____

Mobile Number: _____ Job Title: _____

Department: _____ Head of Department: _____

2nd Delegate Name _____ Mr Mrs Ms Dr Others

Direct Line Number: _____ Email: _____

Mobile Number: _____ Job Title: _____

Department: _____ Head of Department: _____

3rd Delegate Name _____ Mr Mrs Ms Dr Others

Direct Line Number: _____ Email: _____

Mobile Number: _____ Job Title: _____

Department: _____ Head of Department: _____

*Please fill all the details including mobile number. This help us to contact participant if they are late in class or if there is any urgent update (through whatsapp/call)

INVOICE DETAILS

Attention Invoice to: _____

Direct Line Number: _____ Fax: _____

Company: _____ Industry: _____

Address: _____ Postcode: _____

Country: _____ Email: _____

Please note:

- Indicate if you have already registered by Phone Fax Email Web

- If you have not received an acknowledgement before the training, please call us to confirm your booking.

PAYMENT METHODS

By Credit Card :

Please debit my credit card: Visa MasterCard AMEX Security Code: _____

Card Number: _____ Expiry Date: _____

Name printed on card: _____

By Direct Transfer : Please quote invoice number(s) on remittance advice

PetroSync Global Pte Ltd Bank details:

Account Name: PetroSync Global Pte Ltd

Bank Name : DBS Bank Ltd

Bank Code : 7171 • Bank Swift Code : DBSSGSGXXX • Branch code : 288

Account No : • SGD : 288-901898-0 • USD : 0288-002682-01-6

Bank Address : 12 Marina Boulevard, Level 3. Marina Bay Financial Centre Tower 3. Singapore 018982

All bank charges to be borne by payer. Please ensure that PetroSync Global Pte Ltd receives the full invoiced amount.

Confirmation

I agree to PetroSync's terms & conditions, payment terms and cancellation policy.

Authorized Signature : _____

Date : _____

PAYMENT TERMS : Payment is due in full at the time of registration. Full payment is mandatory for event attendance.

PROGRAMME CONSULTANT

Contact : Cay Aagen
Email : registration@petrosync.com
Phone : +65 3159 0800
Fax : +65 6826 4322

TERMS AND CONDITIONS

DISCLAIMER

Please note that trainers and topics were confirmed at the time of publishing; however, PetroSync may necessitate substitutions, alterations or cancellations of the trainers or topics. As such, PetroSync reserves the right to change or cancel any part of its published programme due to unforeseen circumstances. Any substitutions or alterations will be updated on our web page as soon as possible.

DATA PROTECTION

The information you provide will be safeguarded by PetroSync that may be used to keep you informed of relevant products and services. As an international group we may transfer your data on a global basis for the purpose indicated above. If you do not want us to share your information with other reputable companies, please tick this box

CANCELLATION POLICY

Delegates who cancel after the training is officially confirmed run by email, are liable to pay the full course fee and no refunds will be granted. You may substitute delegates at any time as long as reasonable advance notice is given to PetroSync.

In the event that PetroSync cancels or postpones an event for any reason and that the delegate is unable or unwilling to attend in on the rescheduled date, you will receive a credit voucher for 100% of the contract fee paid. You may use this credit voucher for another PetroSync to be mutually agreed with PetroSync, which must occur within a year from the date of postponement.

PetroSync is not responsible for any loss or damage as a result of the cancellation policy. PetroSync will assume no liability whatsoever in the event this event is cancelled, rescheduled or postponed due to any Act of God, fire, act of government or state, war, civil commotion, insurrection, embargo, industrial action, or any other reason beyond management control.

CERTIFICATE OF ATTENDANCE


80% attendance is required for PetroSync's Certificate of Attendance.

DETAILS

Please accept our apologies for mail or email that is incorrectly addressed.

Please email us at registration@petrosync.com and inform us of any incorrect details. We will amend them accordingly.

Find us on Social Media:

 PetroSync Global Pte Ltd

 PetroSync

 PetroSync

CHARGES & FEE(s)

- For Payment by Direct Telegraphic Transfer, client has to bear both local and overseas bank charges.

- For credit card payment, there is additional 4% credit card processing fee.