

Chemical Engineering Graduate and Student supply in the North West Region-

Chemical Engineering Education comes home *Bill Harper- IChemE Vice-President (Qualifications)*

With the on-going demand for Chemical Engineering education, arising in part due to the impact of the Whynotchemeng campaign, there are now three strong university departments in the region, these are:

University of Chester - this must rank as the world's most appropriately placed Chemical Engineering Departments being based at the Thornton Science Park which is on the site of the former Shell Thornton Research Centre next door to Stanlow Refinery. This course, at BEng and MEng level, will produce its first graduates this summer (July 2017). IChemE has been fully involved in the development of the programmes and in 2016 IChemE undertook a detailed benchmarking exercise. A full accreditation visit is scheduled during 2017. The graduates and students are particularly suitable for the whole spectrum of Chemical Engineering in the region and the course has a structured programme of embedded work experience placements.

Of particular note is the wider development of the Thornton site by the University. Chemical Engineering is just one part of the new Faculty of Science and Engineering which is becoming a hub for energy research and has attracted more than 30 commercial companies to the site.

Contact the Head of Department, Prof. Steve Wilkinson (s.j.wilkinson@chester.ac.uk)

University of Lancaster- based in the long respected Engineering Faculty the course offers both BEng and MEng options, both of which are now producing quality graduates who are fully accredited by IChemE as fulfilling the academic requirements for registration with the Engineering Council. There is a particular interest in Environmental and Sustainability aspects of Chemical Engineering, but the graduates and students looking for placements are immediately available for the full range of Chemical Engineering employment.

Contact the Head of Department Prof. Alastair Martin (a.martin1@lancaster.ac.uk)

University of Manchester- with its roots going back to George E Davis, the Manchester Department rightly claims that this is where Chemical Engineering Education started. Now 128 years later the department is one of the biggest and most prestigious departments in the world. It covers an extensive research portfolio and a wide range of accredited BEng, MEng and taught MSc. Programmes. The De-

partment has been at the forefront of developing integrated industrial placements, where the placement year counts as one of the four years of an accredited MEng programme. With a current intake of >250 undergraduates per year there can be few members of the IChemE North West who aren't either Manchester graduates themselves or who don't work alongside colleagues who are.

Contact the Head of School Prof. Chris Hardacre (c.hardacre@manchester.ac.uk)

Together these offer the North West a unique and highly varied provision of graduates, postgraduates, personal development opportunities and research links.

The purpose of this article is to highlight a few of the ways in which North West based IChemE members and their employers might wish to interact with the departments for mutual benefit.

All three North West departments are ex-

position in the way that they can offer routes which can be readily aligned to the Globally recognised suite of IChemE qualifications. IChemE is therefore working closely with all interested accredited departments and industrial partners to help them exploit the opportunities in a slick manner.

Although precise details are still emerging, from the middle of 2017 employers will be able to get funding (from the pot of money arising from the levy) for a range of approved Trailblazer apprenticeships. Many of these apprenticeships will allow employees to move through levels of educational attainment,

*“Chemical
Engineering
Education in the
North West has
never been stronger”*



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emplary in terms of their desire to forge strong partnerships with local employers and I fully recommend them to all of you. Take a look, you **will** be impressed.

The following are just examples of the ways in which you, your colleagues and your organisations may wish to get involved.

Apprentice & Technical Training Reforms

As you will be aware the on-going reforms to apprenticeship arrangements in England and in particular of the introduction of a Levy from April 2017 are leading companies to look for more and innovative means of developing vocational routes into employment.

The central feature of the new arrangements is the way in which they make employers the direct customers for training being done on their behalf. In such an environment, universities that offer accredited Chemical Engineering programmes are in a very strong

Chemical Engineering Education comes home (continued)

potentially to Level 7 (Masters).

If your organisation is going to be in a position to recoup levy money this year, time is of the essence, therefore you are urged to make contact with universities and work with them to obtain the necessary dispensation to proceed

Chester University is working with the Process Industry Training provider TTE towards offering part-time BEng study towards the Science Industry Process Plant Engineering Trailblazer apprenticeship.

Lancaster are keen to gauge the level of interest to see if a similar part-time scheme can be provided there too.

Equipment

There is a general interest in having small process equipment and instrumentation available to act as props for lectures and other interactions with students.

In all cases departments have a finite storage capability, so the onus has to be on clean, quality used items, and any donors should check whether items are specifically required prior to dispatch!

Whole systems for laboratories or donations of apparatus are also potentially of interest to departments, but again early dialogue is essential

Undergraduate Teaching

All three departments are interested in scheduling relevant industrial lectures, and in many cases can offer coaching and other support.

Industrial lecturers invariably find it to be a highly rewarding experience, which can often offer individuals useful CPD and also evidence for chartership applications

As with equipment donations early dialogue with departments is essential.



Undergraduate Site Visits

Site Visits have always been a staple part of Chemical Engineering courses, however in recent years they have been increasingly difficult to organise owing to the size of classes, industrial security constraints, cost and the loss of timetabled teaching time.

All the NW Departments would be interested in proposals from companies which are cognisant of these constraints, with a preference for large-scale, COMAH operations or similar.

Undergraduate Projects

It is widely recognised that the involvement of people from industry is highly desirable in the setting, support and assessment of Design Projects so as to give context.

All three departments are keen to get such input, but again early dialogue is essential.

In addition Manchester is keen to engage with industry of all sizes in developing MEng & MSc research projects which will support research and development in the region.

Undergraduate Placements

Undergraduate Placements are highly beneficial for learning and also are proven to be useful as an opportunity for a long-term two-way interview process for graduate recruitment. There are large Chemical Engineering employers in the North West which recruit the vast majority of their graduate trainees through placement schemes with selected universities.

The three departments in the

North West all follow different placement models, which provides regional employers with a useful range of options.

Chester- Undergraduates undertake placements during their 1st and 2nd years, lasting 4 weeks and 8 weeks respectively. Placements are made through a “speed dating process”. Crucially these placements are funded as part of the course so there is no charge to the company.

Year placements are also a possibility, with two students currently involved

Lancaster- A formalised approach, with a range of options and lengths are being developed, offering employers the opportunity to shape arrangements which best suit them.

Manchester- Operates an IChemE accredited MEng with Industrial Experience, where the placement year counts as one of the four years of the course. This is a highly regarded scheme, there is however a need for the placed student to work on a suit-

able project during the year

In addition, relevant summer placements are always popular with students from all departments.

The examples above are just a few of the ways in which North West based Members and their employers could get more involved with the regional University Chemical Engineering Departments, please could everyone take some time to consider what they can each do.

For further information please contact Bill Harper at

bill.j.harper@sellafieldsites.com



NORTH LANCASHIRE UPDATE

At North Lancashire, the committee is currently a solo retired engineer and no “actual” committee has existed for some years.

As of Jan 2017, meetings of this group comprise evening gatherings with speakers, on subjects from all parts of science and technology. We run five meetings over a calendar year, between October and March, supplemented by a visit to a site.

Institution membership has not been a pre-requisite, and those attending the meetings are from a range of engineering backgrounds where the chemical engineers probably form just a small number of our regular attendee total. We are from a wide age-range, although the numbers of those from

the younger generation is increasing. So to show intent towards them, we hosted a team from Rugby, who did their Chartership presentation one evening in July.

The closing message is really this ; **let's have a concerted push for additional volunteers; there is an urgent need for contributors to provide the impetus to sustain this group.**

For information on how to join the group, including help organise events and talks please contact Peter Macalpine at pmacalpine@sky.com

ICHEME NORTH WEST GROUP NEWSLETTER

CPD has arrived: all you need to know *Sam Haig and Alex Allen*

IChemE has announced that as of 2017, all Members and Fellows of IChemE will be required to record evidence of Continued Professional Development (CPD), in line with other professional bodies. But what is CPD, how do you plan and record it, and how will IChemE assess you?

CPD

Continued Professional Development describes specific learning and experience that you gain during your career, above and beyond the degree and other qualifications that got you started. It should be indicative of your career path, reflecting your sector- and company-specific knowledge, as well as the increased responsibilities that come with career progression. As an Associate Member, you will have recorded CPD and made plans for the future to support your application for chartership. CPD demonstrates proof of continuing professional competency, facilitates career progression, and can be viewed as an insurance policy to help future career mobility.

CPD covers many different types of experience, and it can sometimes be difficult to know what to include. Obvious examples are formal training courses led by specialist organisations, and attending or speaking at conferences or trade shows. However, this is not the be-all and end-all, and CPD does not have to be directly related to technical learning: internal training courses, involvement in your local IChemE members' group, and speaking at events promoting engineering for school children are all valid examples of CPD. As long as you can provide evidence for the experience, and justify how it has improved you as an engineer, it counts!

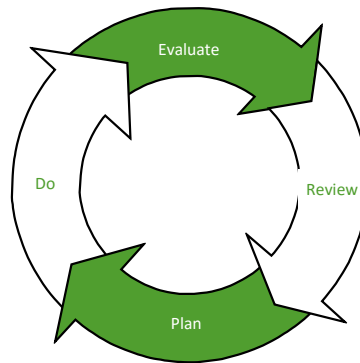
The CPD cycle

Planning CPD can be challenging, but can be effectively combined with any existing performance reviews. A typical 'CPD cycle' is:

Review: Assess your current situation and recent performance. What are your competencies, and which areas need further learning and development? What technical, personal, and career goals would you like to achieve as a result of CPD? Your line manager or another mentor can help you with this.

Plan: Determine what CPD activities you need to fulfil the areas of development and achieve the goals identified in the Review stage. What resources are required - e.g., advice from colleagues, journals or other learning materials, or budget to fund training courses? What are realistic timescales for these activities, and how will you measure whether the activity has been successful?

Do: Carry out the activities you planned. It is important to work to the plan you developed, but also be prepared to be flexible. An opportunity may arise for CPD that you had not anticipated, and you should be ready to take it. Likewise, for reasons you could not predict, some



planned activities may not be possible or may be rendered obsolete. However, if CPD is tied to your performance review, discuss with your line manager in good time to ensure they agree with your decisions. Most importantly, make sure to record your CPD as you go.

Evaluate: At regular intervals, look back at the CPD you have carried out since your last Review. Are you still on track with your plan? Have you benefitted from the activities? The Evaluation stage is important not only to ensure you are fulfilling your CPD requirements, but also as a method of positive reinforcement and self-satisfaction; it is often difficult to see just how far you have improved without this kind of structured approach. Evaluations should often be combined with a new Review and Planning stage, where additional CPD activities can be identified.

It is important to recognise that not all 'Do' stages are the same length, and some activities will take longer than others. You should consider setting short- and medium-term goals in your Review and Plan stages, and Evaluate these activities accordingly.

Recording CPD and assessment

IChemE has not specified the format in which CPD should be recorded, so your company's existing systems may be adequate. However, IChemE provides the 'mycareerpath' website (<https://mycareerpath.icheme.org/>), where you can record all your CPD.

IChemE has not implemented a 'points' system

nor suggested a number of hours that should be completed annually (though many other institutions use that type of model); however, between 20 and 40 hours per year is typical for those that do specify a minimum amount. This requirement is typically reduced in extenuating circumstances, such as long-term illness, maternity, or retirement.

IChemE has stated that it will annually select Members and Fellows at random to assess CPD plans; failure to provide a satisfactory plan will be viewed as a breach of the Code of Conduct. It is therefore essential to complete your plan!

The North-West Member Group, and local Member Groups, will be holding events in the coming months to discuss the new requirements; look out for one in your area, and in the meantime contact nwmgcm@ichememember.org with any queries.

For Further Information:

IChemE CPD Policy

<http://www.icheme.org/~media/Documents/icheme/Resources/cpd/IChemE-CPD-Policy.pdf>

IChemE CPD Website (and link to My-careerpath)

<http://www.icheme.org/resources/continuing-professional-development.aspx>

Engineering Council Website

<http://www.engc.org.uk/professional-development/continuing-professional-development-cpd/>

Engineering Council CPD Code for Registrants

http://www.engc.org.uk/engcdocuments/inter-net/website/EngC_CPD_Code_for_Registrants.pdf

Did you know that 31% of the NW branch members are Chartered Engineers and a further 9% are Fellows?

ICHEME NORTH WEST GROUP NEWSLETTER

CUMBRIA BRANCH UPDATE

Cumbria Members Group recently organised an evening technical event at Florence Mine near Egremont. The event focussed on particle science and the venue was chosen because mine used to extract haematite.

We enjoyed an evening listening to engineers, scientists, miners and the artists who use the ores in their



work. It was a fascinating insight into how an old industrial site has changed purpose to become an arts centre, how ores which used to be used for heavy industry can now be made into oils and watercolour paints, pastels and pencils and finally how particle science fundamentals link all this together.

The feedback was very positive and continues to demonstrate how the Cumbria Members Group are going from strength to strength, even though we are the smallest member group in the UK.

For more information please contact Toby Cushion at: cumbria-chair@ichememember.org



CHESTER BRANCH UPDATE

The IChemE Chester and North Wales MG in conjunction with the IMechE, IET, IOP, RAeS local branches has been working closely with the University of Chester's STEM Society to produce a series of lectures and networking events for students and PEI members. Events are usually held at the University's Thornton Science Park.

We are also exploring how best to allow those students without transport to return to their digs in the centre of Chester after the last bus leaves Thornton at 6:30. Consequently, it is planned to precede the above events by a talk, nominally for the students but all welcome, at 5:30pm. **If anyone can help with sponsoring a minibus we would be grateful.**

An event at Wrexham Glyndwr University is also in the planning stage for early summer. It is hoped to include a visit to both the engineering department and Techniquet.

At the end of 2016, a number of us from local IChemE MGs and Chemicals Northwest met up with the staff of the Chemical Engineering Department at the University of Chester to discuss how we could collaborate further. This has led to a number of proposals for joint activities to improve the interaction between education and industry in North Wales and the Northwest of England.

We are also exploring how best to engage with local technical colleges and schools.

The chairman of the Chester and North Wales MG has also attended various meetings with the North Wales Joint Intuitions Group, the North Wales Business Council, Glyndwr University's Techniquet, the North Wales Big Bang, local MPs, the Mersey Dee Alliance and Bangor University's FabLab to promote IChemE and chemical engineering around our area.

For more information please contact Peter Swanson at: peterswanson120@btinternet.com

MANCHESTER BRANCH UPDATE

The re-launch of the Manchester Group has been going really well. Events so far have included a tour of the Robinson's Brewery in Stockport, a technical talk on recent developments in 3D Design, and a Christmas Social at Vapiano in Manchester.

All events have been well attended so far by a very broad cross-section of the local ChemEng population, from experienced Fellows to new Students. Upcoming events will focus on creating links between the University and local Industry.

These include a Safety Seminar at the University, a tour of the pilot plant and PhD show-case day, a Get Chartered Event, and the IChemE/IMechE/IET Engineering Excellence Awards Dinner at the end of March. The Manchester Committee has been active and well attended, a real force to help pro-

vide interesting and stimulating events for Chemical Engineers in the Area.

For more information please contact Martin Hyde at: Martin.Hyde@ghd.com

WARRINGTON AND WIDNES UPDATE

The Warrington & Widnes Group has continued to organised talks which have been very well attended. These talks have included a technical talk on an *integrated approach to assessing cumulative risk* and insight into *how the HSE works*. Together with the Chester Group, there is a Get Chartered event which will take in April.

In addition there is upcoming technical talk on Cleaning In Place (CIP) in the food industry. Information on events which may be of interest by other institutions, such as a Technical Lecture by the IMechE on Energy Storage in Cheshire salt deposits has also been distributed to all members. The Warrington & Widnes committee is very

much an active group always looking to keep members and local Chemical Engineers informed on interesting topics.

For more information please contact Phil Egan at: philegan2000@hotmail.com

North West Members Group

UNIVERSITY UPDATE RACHANA HALASABELE – STUDENT REPRESENTATIVE



On 23rd November 2016, Mr. Martin Hyde (Associate Director – GHD) and Mr. Ian Walker presented an interactive talk to Chemical Engineering students at the University of Manchester as part of the 'Engineering Profiles' initiative of IChemE – Manchester to foster interaction between students and practicing engineers to bridge the gap between university learning and Industry.

The highly visual presentation provided a fantastic insight into the growth and career progression of a Chemical engineer – from graduating to early design experience through till managing and leading multi-disciplinary teams in large projects. The importance of engineering fundamentals was also discussed through interesting case studies.

Students also got an opportunity to see the 3-D CAD simulation that Mr. Hyde and Mr. Walker had developed for a Unilever Pilot plant alongside a discussion of cutting edge laser imaging techniques used in the industry. Safety as the cornerstone of process design and management was strongly stressed and the exhibits of permit to work forms, risk assessments and HAZOP record forms from Mr. Hyde's own work was of great value to the students since it brought to life concepts that were only discussed in theory during their studies.

New skills that a Chemical engineer is exposed to during work such as project management, business development, and financial management were also discussed and moreover the right attitude of respect for others and lifelong learning were emphasised for a successful career.

The event concluded with a Q&A session where students obtained advice regarding job applications, interviews, path to becoming a Chartered Engineer and work opportunities at GHD.

If you are interested in volunteering at the next Engineering Profiles event email Rachana at: rachana.halasabele@student.manchester.ac.uk

UPCOMING EVENTS

Event	Date
Recycling Technologies, at Thornton Science Park, Chester	7 th March 2017
Asking the right questions to help you develop as an engineer, at Moresby Hall, Whitehaven	22 nd March 2017
CIP in Food and Drink Industries, Warrington	March 2017
Engineering Excellence Dinner, at the Hilton, Manchester	31 st March 2017
Get Chartered, Networking and Mentoring at Thornton Science Park, Chester	4 th April 2017
AstraZeneca's Transformational Relocation to Cambridge, at Alderley Park, Cheshire	25 th April 2017
Annual General Meeting, Manchester	June/July 2017
Pub Quiz, Manchester	June/July 2017

Lookout for the yearly Pub Quiz in June/July 2017 and other events near you!

ENGINEERING YOUR FUTURE

Engineering Your Future is a series of events aimed at engaging with students at a 17-18 year olds level to showcase the possibilities and opportunities available with an engineering degree.

In the year 2016, the NW Committee Member Group participated at six events at various towns and boroughs within the North West.

Events have been held at Liverpool FC, Preston Grasshoppers, Siemens, Halliwell Jones Stadium and UCLAN Westlakes.

The next series of Engineering Your Future events will be held in the Autumn and Winter months of this year 2017.

If you are interested in volunteering at any of these events to support young people in STEM and promote your company the engineers of tomorrow please contact Adil Farooq at: adil.farooq@costain.com



DIVERSITY AND INCLUSION

The NW members group, along with the Manchester and Cumbria members group, have set up a Diversity and Inclusion sub-group.

This newly formed group aims to promote Chemical Engineering as an inclusive, accessible profession for all, hoping to act as a communication platform for those in minority groups who may experience or fear experiencing, isolation throughout their career. We will target diversity in areas such as gender, sexuality, ethnicity and disability, both mental and physical. Chemical Engineering attracts more females than most engineering disciplines, which is a positive start, but more can be done to improve diversity.

Keep a look out for additional information to come for how to take part in the group and upcoming activities or email nwmgecm@ichememember.org.

If you are interested in joining the newsletter editing team or would like to publish an article or update please email:

nwmgecm@ichememember.org