Project responsibles:

Robert Steinberger-Wilckens, U Birmingham (coordinator)
Volodymyr Shentsov, Ulster University
Aravind Purushotaman Vellayani, U Groningen/TU Delft
Massimo Santarelli, Politecnico di Torino
Yehor Brodnikovskyi, KPI Kyiv
Lars Nilausen Cleemann, DTU Energy
Karel Bouzek, VSCHT Prague
Jan Van herle, EPFL Lausanne
Jean-Luc Delplancke, ULB Brussels
Ioan Iordache, University POLITEHNICA of Bucharest
Florence Druart, INP Grenoble
Dmitriy Makarov, Ulster University
Olaf Jedicke, KIT Karlsruhe

Universities: How to become a TeacHy partner

TeacHy offers its network partners access to its educational material and the use of the MSc course modules available on the TeacHy website. Any university being able to offer 20 to 30% of the course content locally (face-to-face), can draw on the other 70 to 80% to be supplied by the project. This will allow any institution to participate in this European initiative with a minimised local investment. TeacHy will offer help in local accreditation of the course and quality control of the course delivery, and student support. Schemes of Continuous Professional Development (CPD) can also be integrated into the teaching offer. In the future, the project will cover the prevalent languages in the EU and educational systems in Europe. The associated network currently has over 70 partners, including two IPHE countries, and a strong link to international activities in education via the T.I.M.E. network.

Partnering universities will be required to pay a moderate annual license fee which will be used to maintain and update the educational materials.

Please contact Jean-Luc Delplancke for further information: delplje@gmail.com

This project is supported by the

European Fuel Cell and Hydrogen Joint Undertaking under contract no. 779730

For regular updates and information, please go to our web site:

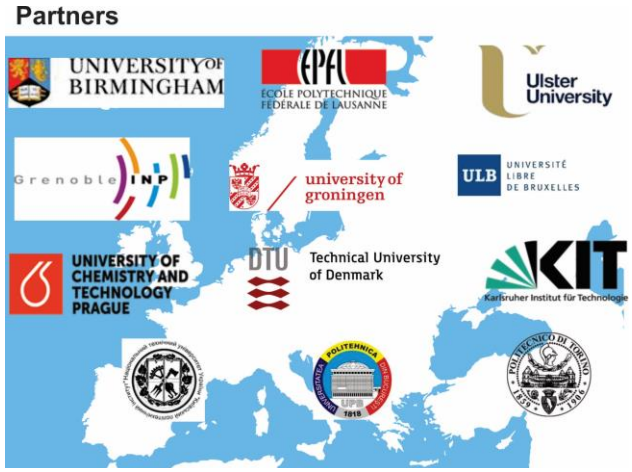
http://www.teachy.eu

Contact for all enquiries:

Mr John Hooper
School of Chemical Engineering
University of Birmingham
Edgbaston
Birmingham, B15 2TT, UK

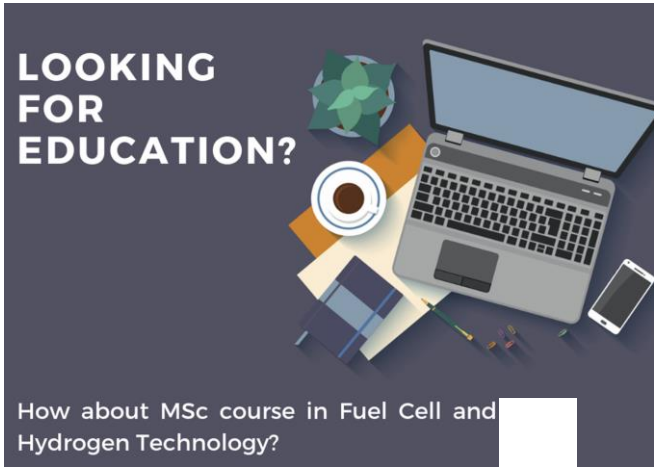
j.c.hooper@bham.ac.uk

The TeacHy consortium:



A European MSc Course in Fuel Cell and Hydrogen Technologies

2021 academic year uptake



TeacHy is taking a lead in building a repository of university grade educational material, and is designing and running an MSc course in FCHT, accessible to students from all parts of Europe (and actually worldwide). A core group of highly experienced institutions working with a network of associate partners (universities, vocational training bodies, industry, and networks) to establish the course content and provide it on a Learning Management System (LMS) via internet access. TeacHy offers associate partners access to its educational material and the use of the MSc course (see over).

How can students take the course:

Partnering universities have access to the course material and register the course at their university. Students have to enroll at a partnering university and can then study for the MSc degree.

The course is structured as a 'blended' course, that is, part of it (typically 30%) is delivered in conventional lectures, and the remaining 70% online. Exams, the final research project (thesis), and all or part of the laboratory work are also taken at the university the student is enrolled at. All rules of enrollment, studying, exam regulations and degrees of the partnering university apply. Depending on university, tuition fees might be charged and the course may take 12, 18 or 24 months.

The course is divided into a 'compulsory' part with 7 modules (see list) and further 5 'specialisation modules'. Further optional modules will be added in the future as they become available. For universities offering longer MSc programmes (18 or 24 months) 'additional' modules are available in order to offer detailed training in specific topics.

Lecture language: currently English.
Other languages to be added.

Programme uptake at University of Birmingham for a start on 27 Sept 2021 is still open.

Enquiries: John Hooper j.c.hooper@bham.ac.uk

List of modules for the 2021/22 academic year, programme starting 27 Sept 2021 at University of Birmingham

Compulsory Core

- Thermodynamics, electrochemistry, chemistry
- Fuel cell technology
- Hydrogen (production, storage, handling), fuels (P2G, P2X), electrolysers
- Fuel cell modelling tools and control
- Characterisation methods
- Lab experience
- Hydrogen safety

Specialisation

- Low temperature fuel cells (materials, stacks, thermodynamics, electrochemistry, chemistry)
- High temperature fuel cells (materials, stacks, thermodynamics, electrochemistry, chemistry)
- Advanced electrochemical applications
- Fuel cell electric vehicles
- Energy systems and storage

As the FCHT industry gradually emerges into the markets, the need for trained staff becomes more pressing. The TeacHy project addresses this issue by supplying graduate education (MEng/MSc, PhD etc.) in fuel cell and hydrogen technologies (FCHT) in the form of a Masters' Course (MSc) offered across Europe.

TeacHy will also support student and industry staff mobility and training by giving access to placements and schemes of Continuous Professional Development (CPD). Other project activities include educational material for the general public, politicians, stakeholders, decision makers, and certification officers (e.g. MOOC's and 'short courses').

TeacHy will build a business model so that operations can be continued post-project, and can act as a single-stop shop and representative for all matters of European university and vocational training in FCHT. The project partnership covers the prevalent languages and educational systems in Europe. The associated network has over 70 partners, including two IPHE countries, and the members of the T.I.M.E. university network.

The project strives to deliver a substantially improved teaching of Fuel Cell and Hydrogen content across Europe from the year 2020. TeacHy will provide high-quality, harmonised educational content and infrastructure for FCH education to be shared across a network of currently more than 80 educational and training institutions in Europe.

The innovative contribution is that TeacHy will enable institutions to offer educational courses that would otherwise not be available locally, and allow students access to a mix of both face-to-face and e-learning content across borders. Any educational institution across Europe that fulfils minimum requirements and adheres to the project quality standards of delivery can participate in these activities. The network will be grown while the project is active with a final goal of around 200 institutions participating. This would probably represent the maximum number of institutions across Europe that could be willing and suitable to participate in the project programme.