

Fuel Cells & Hydrogen Observatory

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Julia Cora / Laurent Antoni, Hydrogen Europe Research



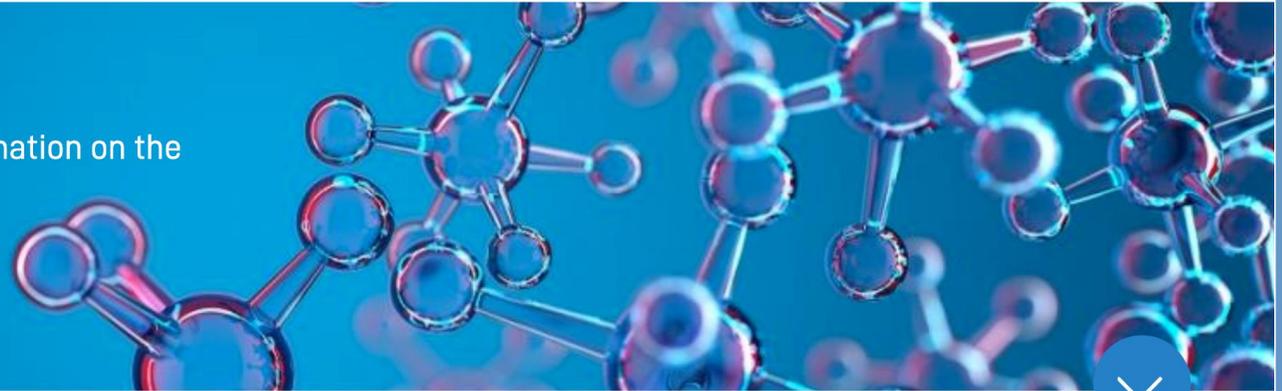
[OBSERVATORY](#) [REPORTS](#) [NEWS & EVENTS](#) [ABOUT US](#)



Welcome to FCH0

Access statistics and up to date information on the fuel cells and hydrogen sector

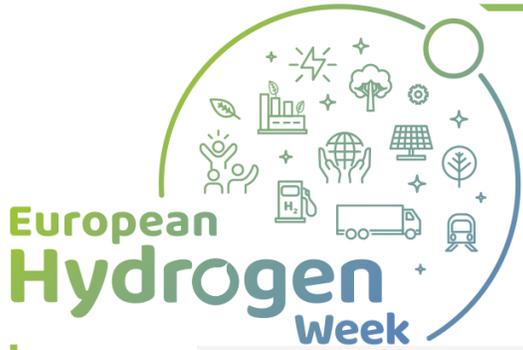
[More information](#)



Welcome to the Fuel Cells & Hydrogen Observatory

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#CleanHydrogen





Go to resource for all things Fuel Cells & Hydrogen

www.fchobservatory.eu

What is the FCHO?

- Global resource
- User friendly and reliable output
- Charts, graphs and data downloads
- Insight reports

Includes chapters on

- Technology & Market
- Policies & regulation
- Codes & Standards
- Patents & Publications
- Funding
- Education & Training

Discover the FCH Observatory

Technology & Market
Access technology, infrastructure and supply statistics relevant to the Fuel cell & Hydrogen sector, including shipment data, hydrogen refuelling and vehicle deployment data as well as supply and demand information related to industrial hydrogen
[See more](#)

Patents
Understand the pattern of first patent registrations and monitor the trends in the sector over time
[See more](#)

Publications
Review the trends in publications across the sector, including articles, technical and conference papers, reviews and project report
[See more](#)

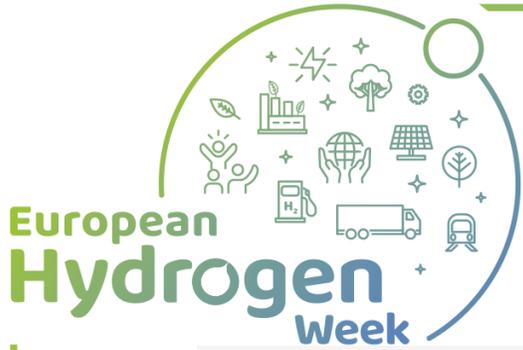
Financial Support
Search for National and European funding and finance opportunities of direct and indirect interest to stakeholders in the Fuel cell & Hydrogen space.
[See more](#)

Policy & Incentives, Regulation, Codes and Standards
Review regional, national and European information on policies and incentives as well as sector-specific Codes and Standards
[See more](#)

Education & Training
Identify Education & Training courses with relevant Fuel cell & Hydrogen content, including location and types of course available. Relevant material available from courses or from projects is referenced.
[See more](#)

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- Funding
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Discover the FCH Observatory

The screenshot displays the FCH Observatory website interface. At the top, it says 'Discover the FCH Observatory'. Below this, there are six main content cards arranged in a 2x3 grid. Each card has a header image, a title, a brief description, and a 'See more' button. The cards are: 1. Technology & Market (with an image of hydrogen storage tanks), 2. Patents (with a bar chart), 3. Publications (with an image of a person reading), 4. Financial Support (with an image of a person at a computer), 5. Policy & Incentives, Regulation, Codes and Standards (with a network diagram), and 6. Education & Training (with an image of a group of people in a meeting). The 'Education & Training' card is highlighted with a red border.

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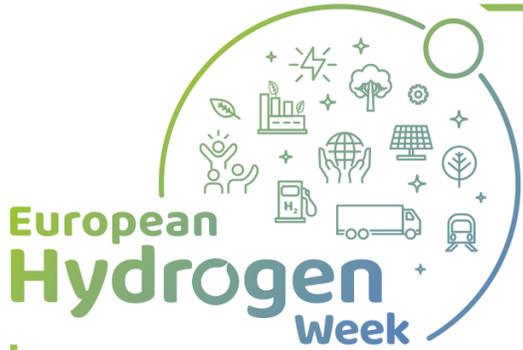
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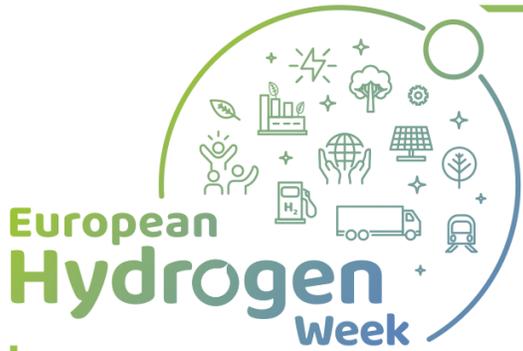
Education & Training Chapter

Overall scope

As the market for fuel cells and hydrogen develops, there is a growing need to track training and knowledges in this field.

The Observatory aims at contributing to this mission by:

- Mapping training offers relevant for students and professionals engaging in the field of hydrogen and fuel cells.
- Making education materials related to fuel cell and hydrogen available on one platform and retrievable by level.



Education & Training Chapter

A two-fold offer

- A tool for students, teachers, researchers, companies and individuals interested in learning about fuel cells and hydrogen.
- Two components:
 - Training programmes
 - Education materials

Training programmes

With this map, training programmes and courses are displayed according to their location. You can explore the data by selecting the type of training you are interested in. The categories refer to different levels of education: Bachelor, Master, Doctorate and Post-Doctorate programmes. Off-curricula trainings are also listed, such as summer schools, workshops, or internships. A language filter is available to refine your search according to your needs.

Free search (e.g. training institution, location, etc.)

Training programme: PhD Programme | Language: - Any -

Apply

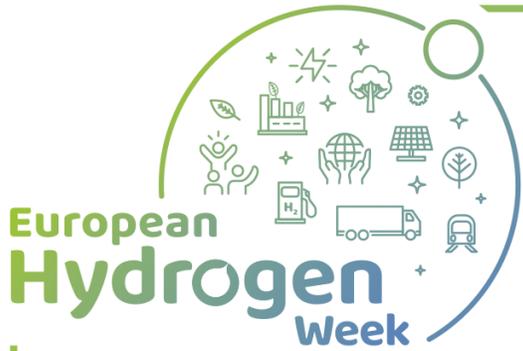
Education materials

Placeholder text for education materials.

Free search [SEARCH]

ISCED: - Select - | Technologies: - Select - | Language: - Select -

COURSE TITLE	TYPE OF MATERIALS	FCH PROJECT	
Introduction to Hydrogen Safety Engineering	Slides	TraineHY	View More
Introduction to Hydrogen Safety Engineering	Slides	TraineHY	View More
Introduction to Hydrogen Safety Engineering	Slides	TraineHY	View More
Introduction to Hydrogen Safety Engineering	Slides	TraineHY	View More

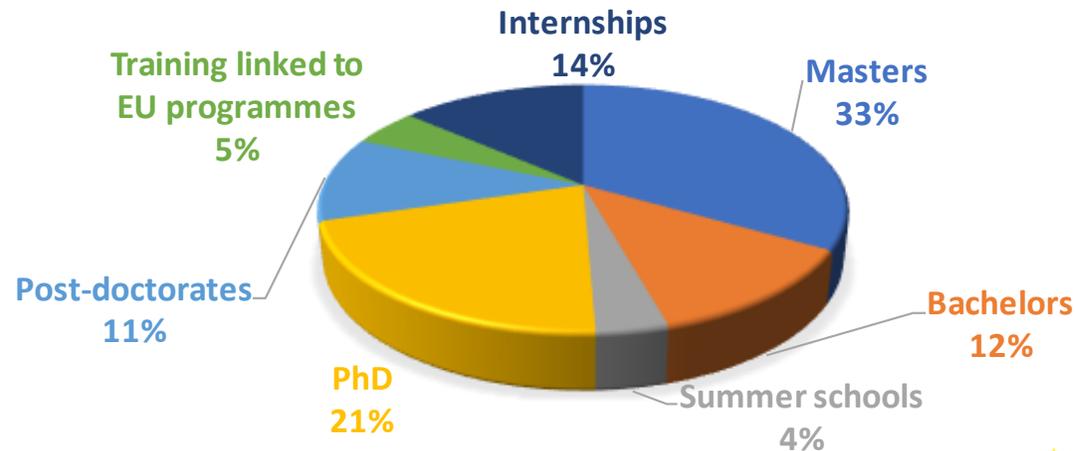


Education & Training Chapter

Training programmes

- To date, **86 training programmes and courses** are listed in the FCHO.
- The data has been collected by responses to a questionnaire sent to all Hydrogen Europe Research membership covering universities and research organisations.

TRAINING PROGRAMMES MAPPED



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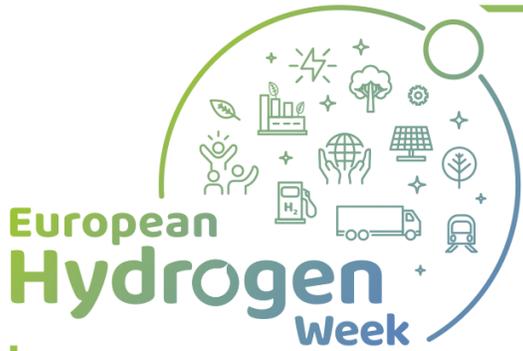
Free search (e.g. training institution, location, etc.)

Training programme:

Language:

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Education & Training Chapter

Training programmes

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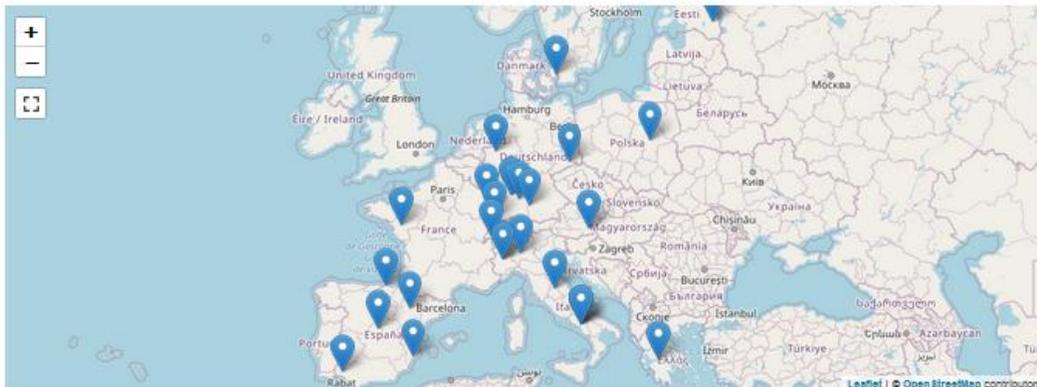
Training programme

Language

Master

- Any -

Apply



The results can be filtered by training programme

Different types of trainings are included on the portal:

- Bachelor, Master, Doctorate and Post-Doctorate programmes and courses
- Summer schools, Workshops, Internships

Bachelor en Energías Renovables (B.Sc. (Hons.) in Maintenance and Management of the Renewable Energies)

Bachelor

Universidad de San Jorge

on-line

[View more](#)

Bachelor in Chemical Engineering

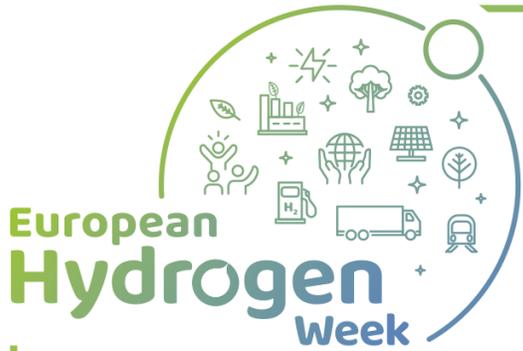
Bachelor

Politecnico di Milano

[View more](#)

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Education & Training Chapter

Training programmes

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Free search (e.g. training institution, location, etc.)

Training programme

Language

- Any -

French

Apply



The results can be filtered by language.

Several languages may be indicated for one training programme.

Bachelor en Energías Renovables (B.Sc. (Hons.) in Maintenance and Management of the Renewable Energies)

Bachelor

Universidad de San Jorge

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Bachelor in Chemical Engineering

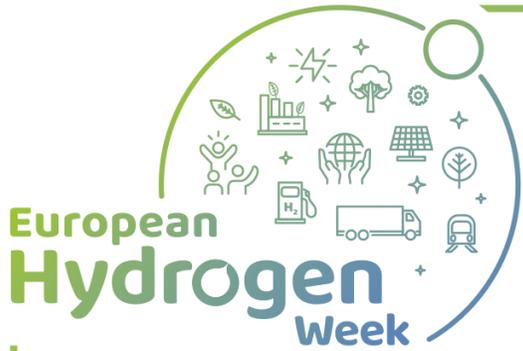
Bachelor

Politecnico di Milano

[View more](#)

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Education & Training Chapter

Education materials

- To date, **about 250 materials** are listed on the Observatory, collected predominantly from European projects outcomes.
- We welcome other sources of materials - please contact the FCHO team

Production de l'hydrogène

COURSE FOCUSED ON	TYPE OF MATERIALS	AUTHOR	LANGUAGE
H2 Production	Slides	HySchools	French
FCH PROJECT	YEAR	LAST UPDATE	WEBSITE/WEBLINK
HySchools	2019	Mon, 11/04/2019 - 12:00	Link

Education materials

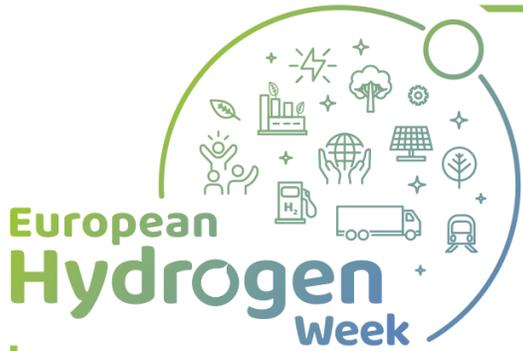
Education materials publicly accessible online can be found in this subsection. Materials can be retrieved by 'level', as classified by the International Standard Classification of Education (ISCED), by course focus, by language or by source of material. You can use the different selectors to refine your search.

Free search (e.g. course title, type of materials, etc.)

ISCED: Technology: Language:

[Apply](#)

COURSE TITLE	TYPE OF MATERIALS	FCH PROJECT	
Accumulo energetico	slides	HySchools	view
Activité d'apprentissage - Distribution de l'hydrogène	Exercice	HySchools	view
Alternative Fahrzeugkonzepte	Slides	H2 Training	view
Alternative fuels	Slides	H2 Training	view
Alternative Treibstoffe	Slides	H2 Training	view
An Introduction to Fuel Cells - Status and applications of fuel cell technology, Competing technologies & the market place	Slides	TrainHy	view



Education & Training Chapter

Education materials

- Thanks to different selectors, materials can be retrieved:
 - by ISCED level
 - by course focus
 - by language

ISCED is the reference international classification for organising education programmes and related qualifications by levels and fields.

Production de l'hydrogène

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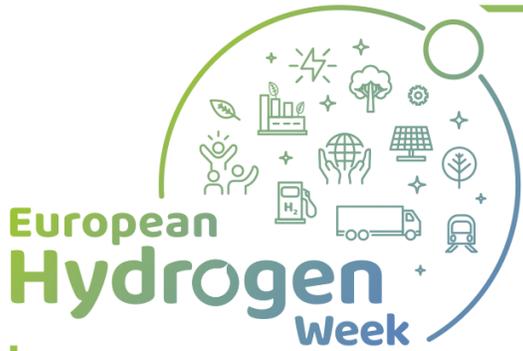
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Free search (e.g. course title, type of materials, etc.)

ISCED: - Any -
 Technology: - Any -
 Language: - Any -

COURSE TITLE ^	TYPE OF MATERIALS	FCH PROJECT	
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Alternative fuels	Slides	H2 Training	view



Education & Training Chapter

Education materials

- Thanks to different selectors, materials can be retrieved:
 - by ISCED level
 - by course focus
 - by language
- Course focus identified:
 - General
 - Basic electrochemistry
 - H2 Production
 - H2 Storage and Distribution
 - H2 End-uses
 - Regulations, Codes, Standards & Safety
 - Life Cycle and Social Assessment, eco-design, recycling
 - Technical-economic evaluation

Production de l'hydrogène

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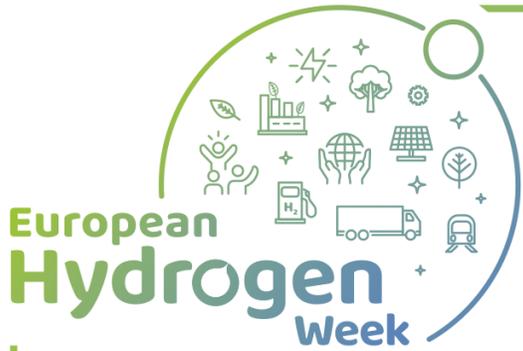
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ISCED: Technology Language:

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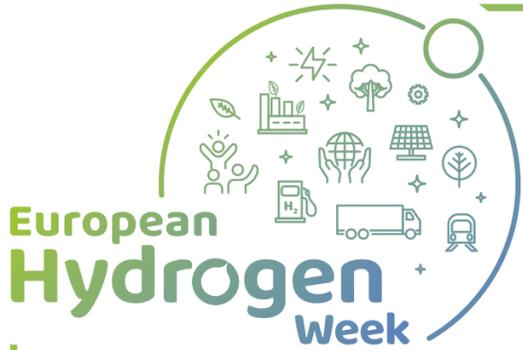
ISCED: Technology: Language:

Apply

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Education & Training Chapter

Next steps

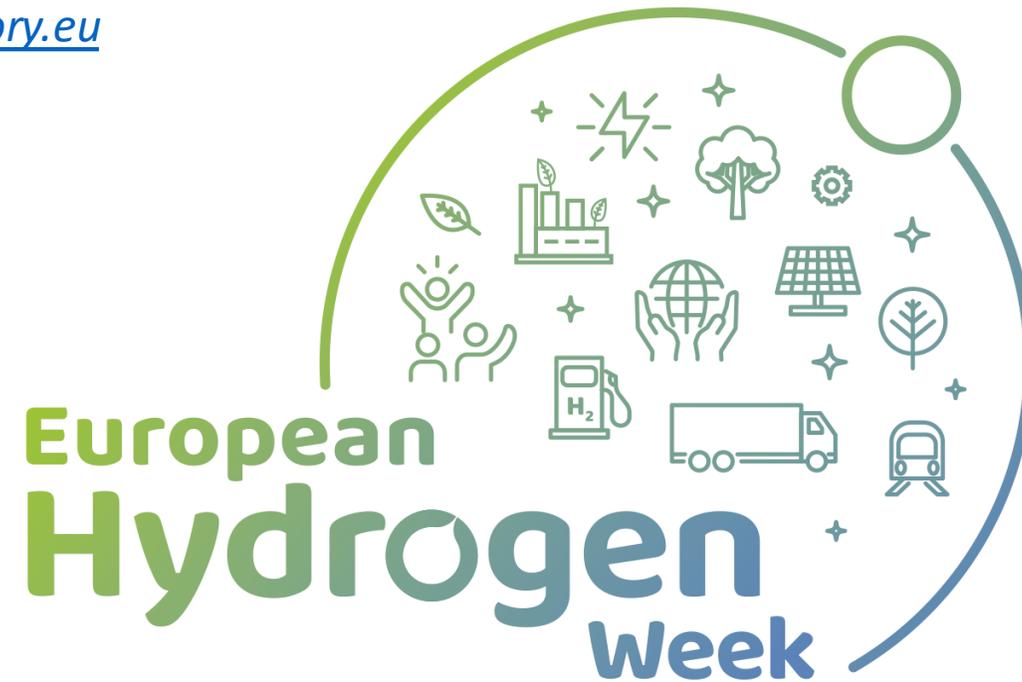
- **New questionnaire to be launched in February 2021**
 - Continue to expand the number and the type of courses shown in the Observatory, including professional and vocational training
 - Present additional information on the courses and programmes
- **Updates to the portal will be carried out:**
 - Quarterly for new materials
 - Annually for new courses
- **We need your help! If you would like your materials or courses added to the Observatory, please contact the FCHO on info@fchoobservatory.eu**

Educational materials means publications, presentations, handouts, course notes etc, intended to provide information about hydrogen and fuel cells.

Contact Us

Email: info@fchobservatory.eu

Fchobservatory.eu



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