



*Joint European Summer School on Fuel Cell,  
Electrolyser, and Battery Technologies  
JESS 2019*

*Week 2 - Advanced Courses &  
The Modelling Master Class  
23 – 27 September 2019*

*Hotel Amarilia,  
Vouliagmeni, Athens, Greece*



sponsored and supported by



## INTRODUCTION

Increasing environmental problems with conventional energy technology are stimulating the demand for alternative energy solutions. With air quality reaching catastrophic levels in large cities worldwide, Fuel Cell Electric Vehicles offer the ideal combination of clean power with the amenities of electric drives. Hydrogen use on vehicles, nevertheless, also raises some issues about safe handling. As fuel cells and hydrogen applications, including vehicles, approach technological maturity, developing their business cases becomes crucial in introducing them to the consumer markets.

The Joint European Summer School JESS 2019 addresses these issues by offering high quality graduate level courses on selected topics of vehicle technology, innovation & business development, safe handling of hydrogen, and modelling. This series of summer schools has been ongoing since 2004 and targets an audience of **university students** (MSc and PhD levels) and **post-doctoral researchers**. We also welcome more **experienced researchers and engineers** wishing to expand their general knowledge, for instance, to suit a newly acquired position or collect credits for Continuous Professional Development (CPD). The course content is tailored to the needs of a diverse audience: **newcomers to the field, experienced students, and young professionals** working at the forefront of fuel cell and hydrogen applications.

Week 2 (23 – 27 Sept 2019) offers four advanced courses in

- Fuel Cell Electric Vehicles,
- Innovative Technology Business Development,
- Hydrogen Safety, and
- The Modelling Master Class.

During the second week of Summer School the main focus will be on the technological and innovation aspects. Building on previous student experience, these courses will offer specialised insights into vehicle technology, how to create an own business, and safe handling of hydrogen. The Master Class will give students the opportunity to present their own research projects and discuss problems in modelling and simulation with their lecturers and peers in order to get valuable impulses for their work. In addition to the lectures, the participants will be asked to join in student projects where the content of the lectures is applied to a case study to be presented at the end of the week.

These courses are accredited at the University of Birmingham and each carry 3 ECTS points (see below).

The previous week (Week 1) will offer three introductory courses to high and low temperature fuel cells and electrolyzers, and battery technology (please refer to the separate programme). The two weeks are conducted independently of each other and students can choose the courses most appropriate to their studies.

## NETWORKING WITH EXPERTS IN THE FIELD

The school draws on the knowledge and expertise of a carefully selected group of lecturers currently working at the leading edge of research and development in Europe and associated to universities, national research centres, and industry.

Informal networking is a key element of science and scientific work in general. JESS offers ample opportunity for networking with peers and seasoned scientists. Students will be asked to give a short introduction to themselves and briefly present the research work they are doing (or expect to be doing).

## CERTIFICATE OF ATTENDANCE

A Certificate of Attendance will be issued to all students of JESS. This Certificate of Attendance can be used for acquiring CPD points. The courses are accredited at the Technical University of Denmark and the universities of Aachen and Birmingham. On taking the optional final exam of their respective course, students can be attributed 3 ECTS points (10 credits in the UK system) for use in their studies.

## ORGANISING COMMITTEE

Prof Robert Steinberger-Wilckens (U Birmingham, United Kingdom)

Prof Vladimir Molkov (Ulster University, United Kingdom)

## LECTURERS

The following distinguished lecturers have already confirmed their participation in JESS 2019:

Robert Steinberger-Wilckens	University of Birmingham, UK
Birgit Thoben	Lausanne, Switzerland
James Wilkie	University of Birmingham, UK
Ferdinand Panik	retired from University of Esslingen, Germany
Jiri Hrdlica	University of Chemnitz, Germany
Thomas von Unwerth	University of Chemnitz, Germany
Murat Peksen	Multiphysics Energy Solutions, Jülich, Germany
Alessio Alexiadis	University of Birmingham, UK
Volodymyr Shentsov	Ulster University, UK
Dmitriy Makarov	Ulster University, UK
Vincent Mattelaer	Toyota Europe, Belgium

You can find brief CV's of the lecturers, programme updates, and information on past events on the JESS web site: <http://www.jess-summerschool.eu/JESS-2019>

The current status of the programme with the general lectures for all participants and the specialised talks has been included in this brochure.

## LOCATION & VENUE

**Athens** is the capital and largest city of Greece. Athens dominates the Attica region and is one of the world's oldest cities, with its recorded history spanning around 3,400 years. Classical Athens was a powerful city-state. A centre for the arts, learning and philosophy, home of Plato's Academy and Aristotle's Lyceum, it is widely referred to as the cradle of Western civilisation and the birthplace of democracy, largely due to the impact of its cultural and political achievements during the 5th and 4th centuries BC on the rest of the European continent. The heritage of the classical era is still evident in the city, represented by ancient monuments and works of art, the most famous of all being the Parthenon, considered a key landmark of early Western civilisation. The city also retains Roman and Byzantine monuments, as well as a smaller number of Ottoman monuments. It is home to two UNESCO World Heritage Sites, the Acropolis of Athens and the medieval Daphni Monastery. Landmarks of the modern era, dating back to the establishment of Athens as the capital of the independent Greek state in 1834, include the Hellenic Parliament (19th century) and the Athens Trilogy, consisting of the National Library of Greece, the Athens University and the Academy of Athens.

The hotel hosting the school is located only steps away from a sandy beach in the Vouliagmeni area, 17 km from Athens city centre and 19 km from Athens international airport. All rooms have individual controlled A/C, free WiFi internet access, hairdryer, mini fridge, LCD TV and DVD player. More details can be found at <http://www.amarilia.gr/>.

JESS 2019		Hydrogen Safety		tentative programme last changed 24/01/2019 (status 16/08/2019)	
		P ... plenary lectures (all students), St ... student presentations, H ... specialised lectures			
<b>Sunday</b>	<b>22/09/2019</b>	20:30	dinner		teaching tools
<b>Monday</b>	<b>23/09/2019</b>				
P.01		08:30	Welcome and General Introduction	Robert Steinberger-Wilckens (U Bham)	
		09:00	Sustainable and Renewable Energy Future	Robert Steinberger-Wilckens (U Bham)	
		09:45	coffee break		
P.02		10:00	Introduction to Hydrogen Safety	Dmitriy Makarov (Ulster University)	
		11:15	break		
P.03		11:30	Status of FC Passenger Cars	Thomas von Unwerth (U Chemnitz)	
		13:00	lunch		
H.01		16:00	Hydrogen Properties and Hazards	Volodymyr Shentsov (Ulster University)	
		17:30	coffee break		
P.04		18:00	Safety when working on FCV's	Vincent Mattelaer (Toyota Europe)	
P.05		19:15	Introduction to the Students' Project	Robert Steinberger-Wilckens (U Bham)	
		19:30	welcome reception (bar)		
		20:00	dinner		
St.01		21:00	Students' Presentations I	Vincent Mattelaer/Murat Peksen	
<b>Tuesday</b>	<b>24/09/2019</b>				
H.02		08:30	RCS and hydrogen safety engineering	Dmitriy Makarov (Ulster University)	
		09:45	coffee break		
H.03		10:00	Unignited releases I: jet parameters	Volodymyr Shentsov (Ulster University)	Tool 1. Jet parameters model
		11:15	break		
H.04		11:30	Unignited releases II: the similarity law, effect of buoyancy, blowdown	Volodymyr Shentsov (Ulster University)	Tool 2. Similarity law for concentration decay
		13:00	lunch		Tool 3. Adiabatic and isothermal model of blowdown Tool 4. Effect of buoyancy on decrease of hazard distance
H.05		16:00	FCV Workshops, Tools and Working Procedures	Vincent Mattelaer (Toyota Europe)	
		17:15	coffee break		
P.06		17:30	Developing Fuel Cell Businesses	James Wilkie (U Bham)	
		18:15	break		
St.02		18:30	Students' Presentations II	Vincent Mattelaer/ Birgit Thoben	
		20:00	dinner		
<b>Wednesday</b>	<b>25/09/2019</b>				
P.07		08:30	Safety when refuelling FCEVs	Vincent Mattelaer (Toyota Europe)	
		09:45	coffee break		
H.06		10:00	Permeation and its dispersion in confined space	Dmitriy Makarov (Ulster University)	
		11:15	Break		
H.07		11:30	Pressure peaking phenomenon	Volodymyr Shentsov (Ulster University)	Tool 5. Pressure peaking phenomenon for unignited releases
		13:00	lunch		
		15:00	excursion		
		21:00	dinner		
<b>Thursday</b>	<b>26/09/2019</b>				
H.08		08:30	Passive and forced ventilation of hydrogen	Volodymyr Shentsov (Ulster University)	Tool 6. Passive ventilation in an enclosure with one vent
		09:45	coffee break		Tool 7. Forced ventilation
H.09		10:00	Ignition of hydrogen releases	Dmitriy Makarov (Ulster University)	
		11:15	Break		
H.10		11:30	Jet fires and hazard distances	Volodymyr Shentsov (Ulster University)	Tool 8. Flame length correlation and three hazard distances for jet fires
		13:00	lunch		
H.11		16:00	Pressure effects of hydrogen fires in open space and enclosures	Volodymyr Shentsov (Ulster University)	
		17:00	Coffee break		
H.12		17:15	Hazard distances from a blast wave	Dmitriy Makarov (Ulster University)	Tool 9: Hazard distances from a blast wave
		18:30	break		
St.03		18:45	Student project time	students	
		20:00	dinner		
<b>Friday</b>	<b>27/09/2019</b>				
H.13		08:30	Mitigation of deflagrations	Volodymyr Shentsov (Ulster University)	Tool 10. Upper limit of hydrogen inventory in closed space
		09:45	coffee break		Tool 11. Venting of localised deflagrations
H.14		10:00	Risk assessment	Dmitriy Makarov (Ulster University)	
		11:15	Break		
H.15		11:30	Safety strategies and mitigation techniques	Dmitriy Makarov (Ulster University)	
		13:00	lunch		
St.05		16:00	ECTS Exam (optional)		
		17:00	coffee break		
St.06		17:15	Students' projects presentations	John Jostins (U Coventry)	
		18:45	break		
P.08		19:00	Farewell	Robert Steinberger-Wilckens (U Bham)	
		20:30	Gala dinner		

**JESS 2019****Fuel Cell Electric Vehicles**tentative programme  
last changed 30/08/2019P ... plenary lectures (all students), St ... student presentations,  
V ... specialised lectures**Sunday 22/09/2019**

20:30 welcome dinner

**Monday 23/09/2019**

P.01	08:30	Welcome and General Introduction	Robert Steinberger-Wilckens (U Bham)
	09:00	Sustainable and Renewable Energy Future	Robert Steinberger-Wilckens (U Bham)
	09:45	coffee break	
P.02	10:00	Introduction to Hydrogen Safety	Dmitriy Makarov (Ulster University)
	11:15	break	
P.03	11:30	Status of FC Passenger Cars	Thomas von Unwerth (U Chemnitz)
	13:00	lunch	
V.01	16:00	Status Fuel Cell Systems Passenger Cars	Thomas von Unwerth (U Chemnitz)
	17:30	coffee break	
P.04	18:00	Safety when working on FCV's	Vincent Mattelaer (Toyota Europe)
P.05	19:15	Introduction to the Students' Project	Robert Steinberger-Wilckens (U Bham)
	19:30	welcome reception (bar)	
	20:00	dinner	
St.01	21:00	Students' Presentations I	Vincent Mattelaer/Murat Peksen

**Tuesday 24/09/2019**

V.02	08:30	Status Fuel Cell Buses and Components	Thomas von Unwerth (U Chemnitz)
	09:45	coffee break	
V.03	10:00	The elano / MicroCar Concept of a Lightweight Vehicle	Robert Steinberger-Wilckens (U Bham)
	11:15	break	
V.04	11:30	Designing and Building Hydrogen Fuel Cell Vehicles	Thomas von Unwerth (U Chemnitz)
	13:00	lunch	
V.05	16:00	Power Train Components (1)	Jiri Hrdlicka (U Chemnitz)
	17:15	coffee break	
P.06	17:30	Developing Fuel Cell Businesses	James Wilkie (U Bham)
	18:15	break	
St.02	18:30	Students' Presentations II	Vincent Mattelaer/ Birgit Thoben
	20:00	dinner	

**Wednesday 25/09/2019**

P.07	08:30	Safety when refuelling FCEVs	Vincent Mattelaer (Toyota Europe)
	09:45	coffee break	
V.06	10:00	Hybrid Vehicle Drive Trains	Robert Steinberger-Wilckens (U Bham)
	11:15	break	
V.07	11:30	Vehicle Batteries	Robert Steinberger-Wilckens (U Bham)
	13:00	lunch	
	15:00	excursion	
	21:00	dinner	

**Thursday 26/09/2019**

V.08	08:30	Power Train Components (2)	Jiri Hrdlicka (U Chemnitz)
	09:45	coffee break	
V.09	10:00	Power Train Components (3)	Jiri Hrdlicka (U Chemnitz)
	11:15	break	
V.10	11:30	Exercise 1	Jiri Hrdlicka (U Chemnitz)
	13:00	lunch	
V.11	16:00	Exercise 2	Thomas von Unwerth (U Chemnitz)
	17:00	coffee break	
V.12	17:15	FCV System Analysis WTW, TCO, LCA	Ferdinand Panik (U Esslingen)
	18:30	break	
St.03	18:45	Student project time	students
	20:00	dinner	

**Friday 27/09/2019**

V.13	08:30	Exercise 3	Ferdinand Panik (U Esslingen)
	09:45	coffee break	
V.14	10:00	Outlook & Scenarios	Ferdinand Panik (U Esslingen)
	11:15	break	
St.04	11:30	Student project time	students
	13:00	lunch	
St.05	16:00	ECTS Exam (optional)	
	17:00	coffee break	
St.06	17:15	Students' projects presentations	Robert Steinberger-Wilckens (U Bham)
	18:45	break	
P.08	18:45	Farewell	Robert Steinberger-Wilckens (U Bham)
	20:30	gala dinner	

<b>JESS 2019</b>		<b>Innovative Technology Business Development</b>		tentative programme last changed 16/08/2019
		P ... plenary lectures (all students), St ... student presentations, BD ... specialised lectures		
<b>Sunday</b>	<b>22/09/2019</b>	20:30	welcome dinner	
<b>Monday</b>	<b>23/09/2019</b>			
P.01	08:30	Welcome and General Introduction	Robert Steinberger-Wilckens (U Bham)	
	09:00	Sustainable and Renewable Energy Future	Robert Steinberger-Wilckens (U Bham)	
	09:45	coffee break		
P.02	10:00	Introduction to Hydrogen Safety	Dmitriy Makarov (Ulster University)	
	11:15	break		
P.03	11:30	Status of FC Passenger Cars	Thomas von Unwerth (U Chemnitz)	
	13:00	lunch		
BD.01	16:00	Introduction to Business Development	James Wilkie (U Bham)	
	17:30	coffee break		
P.04	18:00	Safety when working on FCV's	Vincent Mattelaer (Toyota Europe)	
P.05	19:15	Introduction to the Students' Project	Robert Steinberger-Wilckens (U Bham)	
	19:30	welcome reception (bar)		
	20:00	dinner		
St.01	21:00	Students' Presentations I	Vincent Mattelaer/Murat Peksen	
<b>Tuesday</b>	<b>24/09/2019</b>			
BD.02	08:30	Design Thinking, Creativity & Ideation	Birgit Thoben (future.solutions)	
	09:45	coffee break		
BD.03	10:00	Design Thinking, Creativity & Ideation pt. 2	Birgit Thoben (future.solutions)	
	11:15	break		
BD.04	11:30	Design Thinking, Creativity & Ideation exercise	Birgit Thoben (future.solutions)	
	13:00	lunch		
BD.05	16:00	Business CANVAS Theory	Birgit Thoben (future.solutions)	
	17:15	coffee break		
P.06	17:30	Developing Fuel Cell Businesses	James Wilkie (U Bham)	
	18:15	break		
St.02	18:30	Students' Presentations II	Vincent Mattelaer/ Birgit Thoben	
	20:00	dinner		
<b>Wednesday</b>	<b>25/09/2019</b>			
P.07	08:30	Safety when refuelling FCEVs	Vincent Mattelaer (Toyota Europe)	
	09:45	coffee break		
BD.06	10:00	Business Project Development Exercise	Birgit Thoben/James Wilkie	
	11:15	break		
BD.07	11:30	Business Project Development Exercise (2)	Birgit Thoben/James Wilkie	
	13:00	lunch		
E	15:00	excursion		
	21:00	dinner		
<b>Thursday</b>	<b>26/09/2019</b>			
BD.08	08:30	Equity and debt	Robert Steinberger-Wilckens (U Bham)	
	09:45	coffee break		
BD.09	10:00	Public funding	Robert Steinberger-Wilckens (U Bham)	
	11:15	break		
BD.10	11:30	Finding investors	James Wilkie (U Bham)	
	13:00	lunch		
BD.11	16:00	Business Development Exercise (3)	James Wilkie/Birgit Thoben	
	17:00	coffee break		
BD.12	17:15	Patents and Copyrights	James Wilkie (U Bham)	
	18:30	break		
St.03	18:45	Student project time	students	
	20:00	dinner		
<b>Friday</b>	<b>27/09/2019</b>			
BD.13	08:30	Business Development Exercise (4)	James Wilkie/Birgit Thoben	
	09:45	coffee break		
BD.14	10:00	Final Exercise Q&A and discussion time	James Wilkie/Birgit Thoben	
	11:15	break		
St.04	11:30	Student project time	students	
	13:00	lunch		
St.05	16:00	ECTS Exam (optional)		
	17:00	coffee break		
St.06	17:15	Students' Project Presentations	John Jostins (U Coventry)	
	18:45	break		
P.08	19:00	Farewell	Robert Steinberger-Wilckens (U Bham)	
	20:30	gala dinner		

**JESS 2019****The Modelling Master Class**tentative programme  
last changed 16/08/2019P ... plenary lectures (all students), St ... student presentations,  
M ... specialised lectures**Sunday 22/09/2019**

20:30 welcome dinner

**Monday 23/09/2019**

P.01	08:30	Welcome and General Introduction	Robert Steinberger-Wilckens (U Bham)
	09:00	Sustainable and Renewable Energy Future	Robert Steinberger-Wilckens (U Bham)
	09:45	coffee break	
P.02	10:00	Introduction to Hydrogen Safety	Dmitriy Makarov (Ulster University)
	11:15	break	
P.03	11:30	Status of FC Passenger Cars	Thomas von Unwerth (U Chemnitz)
	13:00	lunch	
M.01	16:00	Basics of first-principles Modelling and Mathematical Tools pt. 1	Alessio Alexiadis (U Bham)
	17:30	coffee break	
P.04	18:00	Safety when working on FCV's	Vincent Mattelaer (Toyota Europe)
P.05	19:15	Introduction to the Students' Project	Robert Steinberger-Wilckens (U Bham)
	19:30	welcome reception (bar)	
	20:00	dinner	
St.01	21:00	Students' Presentations I	Vincent Mattelaer/Murat Peksen

**Tuesday 24/09/2019**

M.02	08:30	From 0d to 3d Modelling - CFD, COMSOL and other tools	Jiri Hrdlicka (U Chemnitz)
	09:45	coffee break	
M.03	10:00	Application of FEM: Thermomechanical Modelling	Murat Peksen (Multiphysics)
	11:15	break	
M.04	11:30	Basics of first-principles Modelling and Mathematical Tools pt. 2	Alessio Alexiadis (U Bham)
	13:00	lunch	
M.05	16:00	How to choose the right software for your modelling problem - Open	Alessio Alexiadis (U Bham)
	17:15	coffee break	
P.06	17:30	Developing Fuel Cell Businesses	James Wilkie (U Bham)
	18:15	break	
St.02	18:30	Students' Presentations II	Vincent Mattelaer/ Birgit Thoben
	20:00	dinner	

**Wednesday 25/09/2019**

P.07	08:30	Safety when refuelling FCEVs	Vincent Mattelaer (Toyota Europe)
	09:45	coffee break	
M.06	10:00	Student presentation 1	Alessio Alexiadis (U Bham)
	11:15	break	
M.07	11:30	Student presentation 2	Murat Peksen (Multiphysics)
	13:00	lunch	
	15:00	excursion	
	21:00	dinner	

**Thursday 26/09/2019**

M.08	08:30	Multiphysics Modelling	Murat Peksen (Multiphysics)
	09:45	coffee break	
M.09	10:00	Thermodynamical and Kinetics Modelling	Murat Peksen (Multiphysics)
	11:15	break	
M.10	11:30	Using Chemical Process Modelling Tools	Murat Peksen (Multiphysics)
	13:00	lunch	
M.11	16:00	Student presentation 3	Murat Peksen (Multiphysics)
	17:00	coffee break	
M.12	17:15	Fuel cell structure impact on operation - understanding the interrela	Jiri Hrdlicka (U Chemnitz)
	18:30	break	
St.03	18:45	Student project time	students
	20:00	dinner	

**Friday 27/09/2019**

M.13	08:30	Student presentation 4	Alessio Alexiadis (U Bham)
	09:45	coffee break	
M.14	10:00	Q&A, discussion, student presentation(s)	Alessio Alexiadis (U Bham)
	11:15	break	
St.04	11:30	Student project time	students
	13:00	lunch	
St.05	16:00	ECTS Exam (optional)	
	17:00	coffee break	
St.06	17:15	Students' projects presentations	John Jostins (U Coventry)
	18:45	break	
P.08	19:00	Farewell	Robert Steinberger-Wilckens (U Bham)
	20:30	gala dinner	

## HOW TO REGISTER

To register, fill in one of the forms attached at the end of this document, scan, and send to the e-mail addresses on the form. Or follow the registration links on the web site

<http://www.jess-summerschool.eu/JESS-2019>

The final deadline for registration is **31 August 2019**.

## PARTICIPATION FEE

The registration fee is 1.485,- €/course and covers tuition fees, accommodation in single room from Sunday 22 to Saturday 28 Sept 2019. This includes full board (meals and coffee breaks), the drinks reception, end-of-week banquet, and excursion.

Double room occupancy is charged at 1.285,- €/course and person. Accompanying persons sharing a double room with a participant and not taking part in the lectures are charged at 620 € for the 6-day stay (including all meals and events).

All prices include Greek V.A.T.

An **Early Bird Discount of 150 €** is offered on registrations up until **30 April 2019**.

There are special rates for additional nights; please enquire, if interested. Participants wishing to arrive early or stay longer should make their **own arrangements** with our booking partner, Panhellas Tourism & Congress (see below).

## CORRESPONDENCE

For issues concerning registration and payment please contact Ms Manuela Drape-Stathoglou at Panhellas Tourism & Congress:

Mail to: [manuela@panhellas.gr](mailto:manuela@panhellas.gr), Tel: +30 2810 300847.

She is also the contact person for any issues relating to the hotel, booking additional nights, and for questions about meals and the excursion.

If you have any dietary requirements with respect to food choice or food allergies, please contact Mrs. Drape-Stathoglou in due time before the Summer School.

Lecturer information and arrangements - [r.steinbergerwilckens@bham.ac.uk](mailto:r.steinbergerwilckens@bham.ac.uk)

Student and general information - [J.C.Hooper@bham.ac.uk](mailto:J.C.Hooper@bham.ac.uk), Phone +44 121 414 5275

## CANCELLATION POLICY

To cancel your registration with JESS, send an email stating your intent to [manuela@panhellas.gr](mailto:manuela@panhellas.gr)

Refunds will be subject to a cancellation fee. If your request arrives by 01 September 2019, the registration fee will be refunded after the school applying a cancellation fee of 350,00 € off the processed registration fee.

**No reimbursement will be made for cancellations received after 01 September 2019.**

## LIABILITY

The school secretariat and organisers cannot accept liability for personal accidents, loss of or damage to private property of participants and/or accompanying persons, either during, or directly arising from the JESS 2019. Participants should make their own arrangements with respect to health and travel insurance.



## Reaching Amarilia Hotel from Athens international airport 'Eleftherios Venizelos'

### By bus and/or/ metro

There is a bus service X96 from the arrivals terminal in Athens International Airport (Eleftherios Venizelos). The trip to the closest bus station to Amarilia Hotel (named 'Pegadakia') takes approx. 35-40 minutes and the cost is ~ € 5,00. From the bus station 'Pegadakia' you turn left onto the main avenue and walk 10 minutes before you turn right off the avenue into street Ag. Nikolaou and arrive at Amarilia Hotel, on the left side after 100 m.

You can also take the metro from the airport (blue line), change at 'Syntagma' to the red line to terminus 'Helleniko'. From there you can take a bus no. 122 to the stop 'Ag. Nikolaos' on the avenue close to the hotel. Walk back from the bus stop for about 20 m and turn left into Ag. Nikolaou. Or take a taxi from 'Helleniko' – about 5 to 10 minutes ride.

### By car

You drive on the highway until the KOROPHI - MARKOPOULO sign and you exit to the left. Then you follow the signs to GLYFADA and drive along the Vari - Koropi Avenue at the end of which there is a sign VOULIAGMENI where you turn left. After 300m, you reach a traffic light; you turn right in the small street 15m after the traffic lights, then right in the first street and then right to Agiou Nikolaou street. This is VOULIAGMENI area and it is where our hotel is located. The distance from the Airport is 19km (20 minutes driving distance).

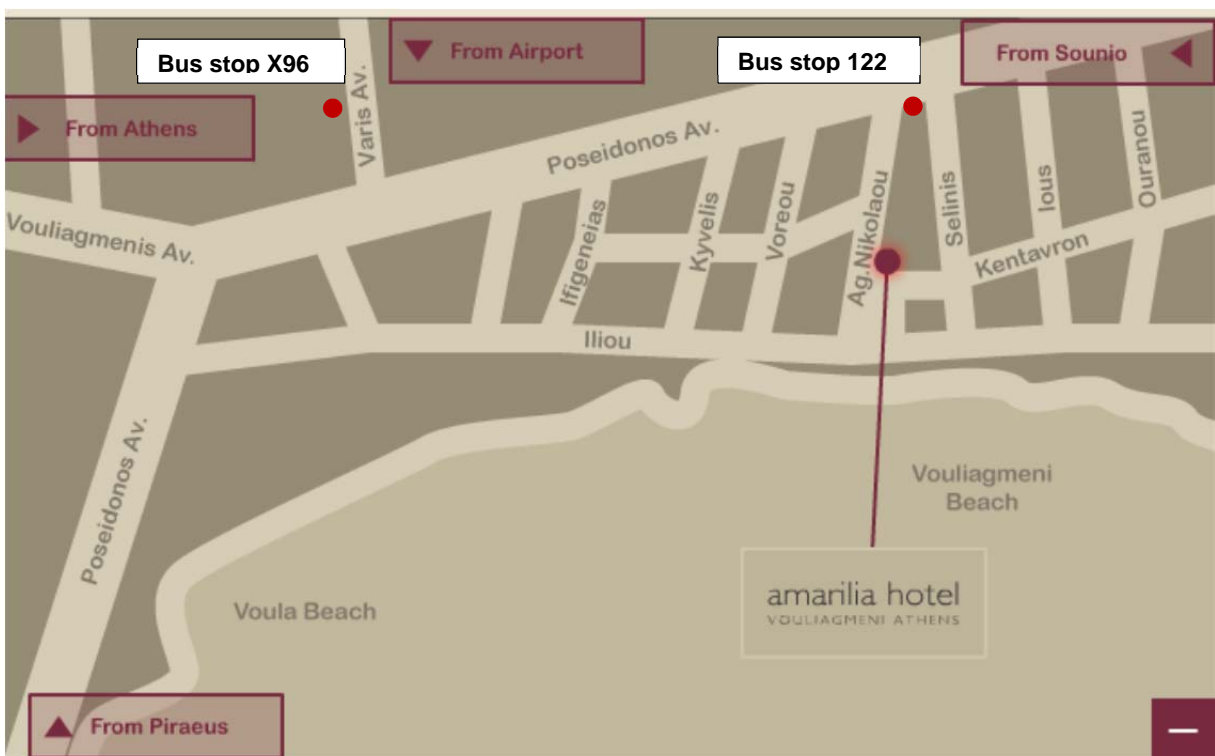
### By taxi

Either take one of the taxis from the airport or pre-book a taxi from Panhellas mail: [manuela@panhellas.gr](mailto:manuela@panhellas.gr), Tel: +30 2810 300847.

Both will cost around € 50,00 (one way). This fee is not included in the registration fee and has to be paid separately.

Manuela Drape-Stathoglou can arrange for shared taxis, depending on when participants arrive. Please contact her in case you want to use this option.

The full address of the hotel is: Hotel Amarilia, 13 Agiou Nikolaou, 16671 Vouliagmeni, Greece.



**Joint European Summer School for Fuel Cell, Electrolyser and  
Battery Technologies – JESS 2019, WEEK 2**

Hotel Amarilia, Athens - Greece  
23.-27.09.2019

Title	
Surname/Family Name/Last Name	
Name	
Gender	Male <input type="checkbox"/> Female <input type="checkbox"/>
University/Institute/Company Name	
Street	
Postal Code	
Town / City	
Country	
Vat Nr of University/Institute (if applicable)	
Phone	
E-mail	
Athens arrival date and time	
Athens departure date and time	
Remarks/Special requested	

**I would like to sign up for the following module:**

(You are allowed to register only for 1 Main Course, but you may change your course during the summer school)

<input type="checkbox"/>	Fuel Cells Electric Vehicles
<input type="checkbox"/>	Innovative Technology Business Development
<input type="checkbox"/>	Hydrogen Safety
<input type="checkbox"/>	The Modelling Master Class

**REGISTRATION FEES**

		Rate in Euro per person
In Single occupancy		Euro 1485,00
In Double occupancy		Euro 1285,00 per person
		<b>EARLY BIRD REDUCTION (-EURO 150,00) FOR BOOKINGS UNTIL 31.04.2019</b>
In Single occupancy		Euro 1335,00
In Double occupancy		Euro 1135,00 per person

In case of accommodation in a double room,  
we need to know the name of the 2<sup>nd</sup> person, sharing the room.

(\*) **An additional** 'hotel tax' payment of €3 per night will be due to the hotel on arrival.

**Accompanying persons** sharing a double room with a participant and **not taking part in the lectures** are charged at 620 € for the 6-day stay (including all meals, events and the excursion).

**Supplement for additional overnights**: Before, after or between the school  
Single room: Euro 90,00 per night (only with breakfast)  
Double room: Euro 120,00 per night (only with breakfast)

Please book \_\_\_\_\_ additional overnight/s for the period  
from \_\_\_\_\_ to \_\_\_\_\_ at Hotel \_\_\_\_\_

**Supplement for private taxi transfer:**

from Athens Airport to Amarilia Hotel or vice versa

for the rate of **Euro 57,00 per taxi per way** (max. 3 persons)

In case of arrivals or departure between 22:00-08:00, there will be a night supplement of Euro 15,00

Private Transfer Yes  No

Date: \_\_\_\_\_ Flight Number: \_\_\_\_\_ Arrival Time: \_\_\_\_\_

Date: \_\_\_\_\_ Flight Number: \_\_\_\_\_ Departure Time: \_\_\_\_\_

Special Notes: \_\_\_\_\_  
\_\_\_\_\_

**DEADLINE FOR REGISTRATIONS: 31.08.2019**

**TOTAL AMOUNT FOR ALL SERVICES: EURO \_\_\_\_\_**

**Payment by:**

**(PAYMENT MUST BE ARRANGED WITHIN 10 DAYS FROM THE DAY OF THE REGISTRATION. IF WE HAVE NOT RECEIVED ANY NEWS OR PAYMENT FROM THE APPLICANT, WE WILL PROCEED WITH THE CANCELLATION OF THE REGISTRATION)**

**A.  Bank Deposit**

PIRAEUS BANK  
N.ERYTHREA – ATHENS  
ACCOUNT NR.: 6728 – 113712 – 215 (PANHELLAS S.A.)  
SWIFT – BIC: PIRBGRAA  
IBAN: GR97 0171 7280 0067 2811 3712215

**Account name – Panhellas S.A**

**Please do not forget to mention:**

**23.-27.09.2019 - JESS 2019 (2<sup>nd</sup> WEEK) – Name of the participant**

**B.  Credit Card: (+3,5 % of the final amount)**

**I authorize Panhellas S.A. to collect the amount of Euro \_\_\_\_\_ from my credit card**

VISA     MASTER

Card no : \_\_\_\_\_

Exp. Date \_\_\_\_\_

Last three digits of the number at the backside of the card \_\_\_\_\_

Cardholder's Name \_\_\_\_\_

Date \_\_\_\_\_

In case of cancellation until 31.08.2019, a 3,5% bank charge will be granted and the rest of the amount will be reimbursed.

**Please sent the registration to:**

JESS 2019 – Secretary - Manuela Drape Stathoglou [Manuela@panhellas.gr](mailto:Manuela@panhellas.gr)