27th Stralsund SpringSchool
2019 April 1st – 12th

schedule *version-03*

FUSES+
FUture **S**ustainable **E**nergy **S**upply –
based on renewable energy
and hydrogen technology

faculty of electrical engineering + computer science — University of Applied Sciences / Fakultät Elektrotechnik + Informatik

institute for renewable energy systems — Institut für Regenerative EnergieSysteme IRES

Date	time	Topic
	Information	**Lecture materials you will find at https://ilias.hochschule-stralsund.de/ilias in FB-ETI >> ETI-Studiengänge >> 2019 FUSES 27th… (list down) PASSWORD: "fuses2019"**
	Sunday	arrival / journey to Stralsund - Please send to Romy.Sommer@hochschule-stralsund.de your arrival times – you will get the keys from her for your accommodation in guest house 17 + house of BFW.
	Lecture rooms:	**H4 / HS 3** = room 118 in house 4 **H4 / HS 7** = room 108 in house 4, **H4/HS 4** = 208 (upstairs, 2nd floor) **H4 / HS 6** = room 225b in house 4 **H4 / HS 8** = room 109 in house 4, **H4/HS 5** = 209 (upstairs, 2nd floor) **H5 / HS1 + HS2** are in house 5 **KAE** = Komplexlabor Alternative Energien Haus 7 / near wind turbine
1.04. Mo	09:00	**Opening Session house 4 / lecture room 3** = room 118 in house 4 then group photo
	10:00 – 11:15	Lecture Prof. Lehmann - Carbon free energy supply demands in the future **H4 / HS 3** = room 118
	11:30 – 13:00	Lecture Prof. Ceponis - Renewable energy technologies and priorities **H4 / HS 6** = room 225b
	13:00 – 14:00	Lunch
	14:00 - 15:00	KAE-Laboratory introduction + safety instruction - **Haus 7 / KAE at windturbine** – DI Sponholz / Luscht.
	15:30 - 17:30	**Walk to SuperMarkets and Visit of the town of Stralsund** Romy Sommer / Liane Voss Meeting Point: 15:30 BusStation of University between house 19 and house 4 (GoldenCube)
2.04. Tu	08:00 - 09:30	Lecture – Prof. Middleton – Fuel cells 1 **H4 / HS 3** = room 118
	09:45 - 11:15	Lecture - Prof. Middleton – Fuel cells 2 H4 / HS 3 = room 118
	11:30 – 13:00	Lecture - Prof. Middleton – Fuel cells 3 H4 / HS 3 = room 118
	14:00 – 17:00	**Laboratory 1 + 2**
	17:30	**Welcome to participants in front of house 7 – barbecue with German students + visit to the ThaiGer-H2-Racing team**
3.04. We	08:00 - 09:30	Lecture – Prof. Middleton – Fuel cells 4 **H4 / HS 3** = room 118
	09:45 - 11:15	Lecture - Prof. Middleton - Thermoelectric devices and applications H4 / HS 3 = room 118
	11:30 – 13:00	Lecture – Prof. Ceponis – Influence of electric cars / vehicle infrastructure on the development of renewable energy sources and distribution grid **H4 / HS 6** = room 225b
	14:00 – 17:00	**Laboratory 3 + 4**
4.04. Thu	08:00 - 09:30	Laboratory 5
	09:45 – 11:15	Lecture Prof. Ceponis – Public-private partnerships investment in renewable energy **H5 / HS1** house 5
	11:30 – 13:00	Lecture Prof. Ceponis – DC power grids for renewable energy **H4 / HS 6** = room 225b
	14:00 - 15:30	Lecture Prof. W. Zenczak – The use of renewable energy on water transport means H4 / HS 6
	15:45 – 17:15	Lecture Prof. Zapalowicz – Efficient conversion of solar radiation and storage options H4 / HS 6
	18:30	***Lecturers Dinner I – Restaurant Ventspils Sundpromenade 1A, 18435 Stralsund***
5.4. Fr	**05:00 – 23:00**	**Meeting Point: 05:00 bus station FH / Visit of the Hanover Fair by bus – please activate your personal free ticket: *https://www.hannovermesse.de/ticketregistration?3wg2c*** and print it out ! We are guest of Tobias Renz FAIR Action code: 3wg2c **H**alle 27, Stand C66 Hydrogen + Fuel Cells + Batteries **- T**ake with you lunch packages ! / **Th. Luschtinetz**
6.04.	Saturday	free own excursions in small groups
7.04.	**Sunday**	**free**
8.04. Mo	08:00 – 09:30	Lecture Prof. Lehmann – Power to gas technology – hype or necessary step in energy turn **H4 / HS 3**
	09:45 – 11:15	Lecture Prof. Mäkelä - Introduction to the simulation of energy and storage systems H4/HS 3 = room118
	11:30 – 13:00	Lecture Prof. Luschtinetz – Grid stability – grid connection of renewable sources **H4/HS 6** = room 225b
	14:00 - 15:30	**Laboratory 7**
	15:45 – 17:15	**Laboratory 8**
9.04. Tu	08:00 - 09:30	Lecture Prof. Senulis - Charging infrastructure + equipment for marine electric propulsion storage syst. **H4 / HS 3** = room 118
	09:45 – 11:15	Lecture Prof. Mäkelä – Automation of wind turbines H4 / HS 3 = room 118
	11:30 – 13:00	Lecture Prof. M. Zenczak - Methods of energy storage in electric power systems H4 / HS 3 = room 118
	14:00 – 17:00	Seminar Prof. Gulden / Luscht./ Mäkelä - Home universities and energy situation / renewable energy situation in the home countries of students - **short presentations of participants H4 / HS 3 or KAE**
	18:30	***Lecturers Dinner II Restaurant Brasserie - Neuer Markt 2, 18439 Stralsund***
10.4. We	09:00 - 10:00	Lecture Prof. A. Senulis, Klaipeda University - Energy storage for Marine vessels **H4/ HS 5** = room 209
	10:00 – 11:15	Lecture Prof. R. Leiner, HTWG Konstanz- Who needs combustion engines? 30 Years of Solar Boats **H4/ HS 5** = room 209
	11:30 – 12:30	Lecture Dr. Th. Kühmstedt, Ampereship GmbH, Stralsund
	13:30 – 14:30	Lecture Dr. D. Büchler, BaltiCo GmbH, Extreme lightweight construction in shipbuilding **H4/ HS 5**
	14:30 – 16:00	Lecture Prof. J. Gulden – Hydrogen propulsion for shipping **H4/ HS 5**
	16:00	Get together ELMAR day in KAE laboratory
11.4. Thu	08:00 - 09:30	**Presentations of lab results** with discussion – Dr. Gulden / DI Sponholz Komplexlabor **H7 + H4/HS8**
	10:00 – 12:00	**Written Examination 2h** in 6 teams with 6 students each 4/210, 223, 316, HS4, HS7, 217
	13:30 – 15:30	SUPA – Meeting event with enterprises from Germany and from the region View to HOST campus and the laboratories of the faculties of MB and ETI Sponholz / Luschtinetz
	17:30	**Farewell barbecue with German students near house 7**
12.4. Fri	09:45 – 11:15	Research & application: Prof. Mäkelä / Gulden – Experiences with PV- & solartherm. systems **HS5** = 209
	11:30 – 13:00	**Handing-over of certificates / evaluation and farewell** **H4/ HS7** = 108