

# Train of Students Workshop Hamburg

26<sup>th</sup> of August – 06<sup>th</sup> of September, 2019

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## Review Table

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## 1 Overview about Participants and Lecturers

In Table 1 the participants of all different Partner Universities are listed. Unfortunately, from Syrian partner universities there were no students sent since the chosen participants didn't receive their Visa.

**Table 1:** Participants from Jordanian and Syrian Partner Universities

University	Participant Name
University of Jordan	Moath Kaleel
	Manar Hdaib
	Batool Khirfan
German Jordanian University	Manar Yousef Abdul Hadi
	Mohammed Emad-Eddin Rahmoun
Al Zaytoonah University of Jordan	Al-Sakoon Mohammad Al Dabbagh
	Raja Saeed Abdullah Shanan
	Faris Bassam Shana'ah Saleh
	Saf'a Ibrahim Salah
	Marwa Emad Fawzi Ihmoud
Al Albayt University	Ala' Zakaria AlBsharat

All participants were chosen according to the selection criteria.

In Table 2 the agenda of the week including all lecturers from Hamburg University of Technology are listed with the topics of their contribution.

**Table 2:** Agenda for the Train of Trainer Workshop in Hamburg

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Date	Time	Content	Responsible
Mon. 26/08/2019	10:00 – 10:30	Welcome Speech by the Head of Institute	Martin Kaltschmitt
	10:45 – 12:00	Lecture 1: Biomass properties	Marvin Scherzinger
	13:00 – 14:15	Lecture 2: Combustion technologies	Natasa Dragutinovic
	14:30 – 15:45	Lecture 3: Pollutants during Combustion	Isabel Höfer
	16:00 – 17:00	Safety Instructions (Lab-Work)	Sarah Flashaar
Tue. 27/08/2019	10:00 – 13:00	Group 1: Practical Experiment "Production of Wood Pellets"	Natasa Dragutinovic / Christian Taraschewski
	14:00 – 17:00	Group 2: Practical Experiment "Production of Wood Pellets"	Natasa Dragutinovic / Christian Taraschewski
Wed. 28/08/2019	10:00 – 13:00	Group 1: Practical Experiment "Combustion of Wood Pellets"	Natasa Dragutinovic / Christian Taraschewski
	14:00 – 17:00	Group 2: Practical Experiment "Combustion of Wood Pellets"	Natasa Dragutinovic / Christian Taraschewski
Thu. 29/08/2019	10:00 – 13:00	Group 1: Practical Experiment "Chemical Analysis of Combustion Products"	Alexander Beckendorff
	14:00 – 17:00	Group 2: Practical Experiment "Chemical Analysis of Combustion Products "	Alexander Beckendorff
Fr. 30/08/2019	10:00 – 13:00	Group 1: Practical Experiment "Determining Heating Values"	Marvin Scherzinger

	14:00 – 17:00	Group 2: Practical Experiment “Determining Heating Values”	Marvin Scherzinger
Mon. 02/09/2019	10:00 – 12:00	Presentation of exercises	Jerrit Hilgedieck / Andreas Zimmermann / Tim Kulbeik
	13:00 – 17:00	Free work on Exercise 1 “Biomass Logistics”	Jerrit Hilgedieck
Tue. 03/09/2019	10:00 – 17:00	Free work on Exercise 2 “Combustion Calculations”	Andreas Zimmermann
Wed. 04/09/2019	10:00 – 17:00	Free work on Exercise 3 “Emissions”	Andreas Zimmermann
Thu. 05/09/2019	10:00 – 17:00	Free work on Exercise 4 “Efficiency”	Tim Kulbeik
Fr. 06/09/2019	10:00 – 13:00	Presentation of the results	Jerrit Hilgedieck / Andreas Zimmermann / Tim Kulbeik
	13:00 – 13:30	Farewell	Martin Kaltschmitt

## 2 Summary of the Workshop Days

### 2.1 Monday, 26<sup>th</sup> of August, 2019

On Monday, 27<sup>th</sup> of August, 2018 the Train-of-Srainer Workshops started at Hamburg University of Technology.



**Figure 1:** Safety Instructions at TUHH

Different lectures related to “biomass utilization” were presented and a safety instruction for the practical laboratory work was given.



## 2.2 Tuesday, 27<sup>th</sup> of August, 2019

On Tuesday, 27<sup>th</sup> of August, 2019 a practical lab training containing the palletization of wood took place. Therefore, the students were divided into 2 groups (Fig 3 and 4).



**Figure 3:** Group 1 during pelletization experiments



**Figure 4:** Group 2 during pelletization experiments

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### 2.3 Wednesday, 28<sup>th</sup> of August, 2019

On Wednesday, 28<sup>th</sup> of August, 2019 there was a practical laboratory training related to biomass combustion (Fig 5 and 6).



Figure 5: Practical Laboratory course on „biomass combustion“, Group 1



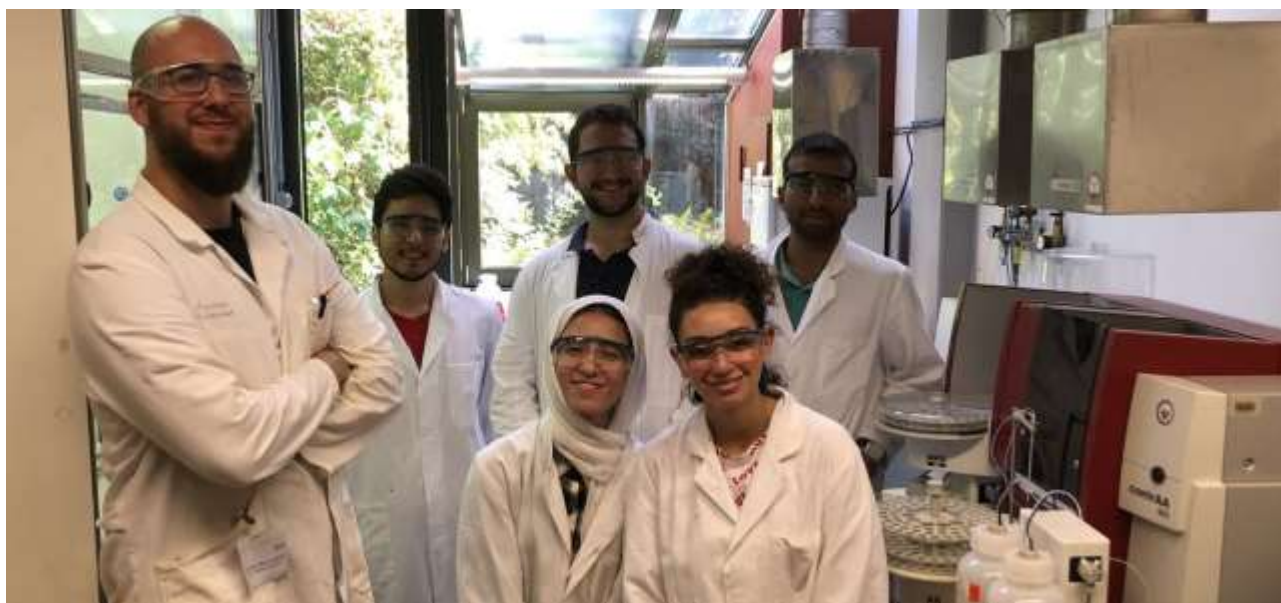
Figure 6: Practical Laboratory course on „biomass combustion“, Group 2

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## 2.4 Thursday, 29<sup>th</sup> of August, 2019

On Thursday, 29<sup>th</sup> of August, 2019, there was a practical laboratory course on determining the elemental composition of biomass samples (Fig 7 and 8).



**Figure 7:** Determining elemental composition of biomass, Group 1



**Figure 8:** Determining elemental composition of biomass, Group 2

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## 2.5 Friday, 30<sup>th</sup> of August, 2019

On Friday, 31<sup>th</sup> of August, 2019, there was a practical laboratory course on determining the higher heating value of biomass samples (Fig. 9 and 10)

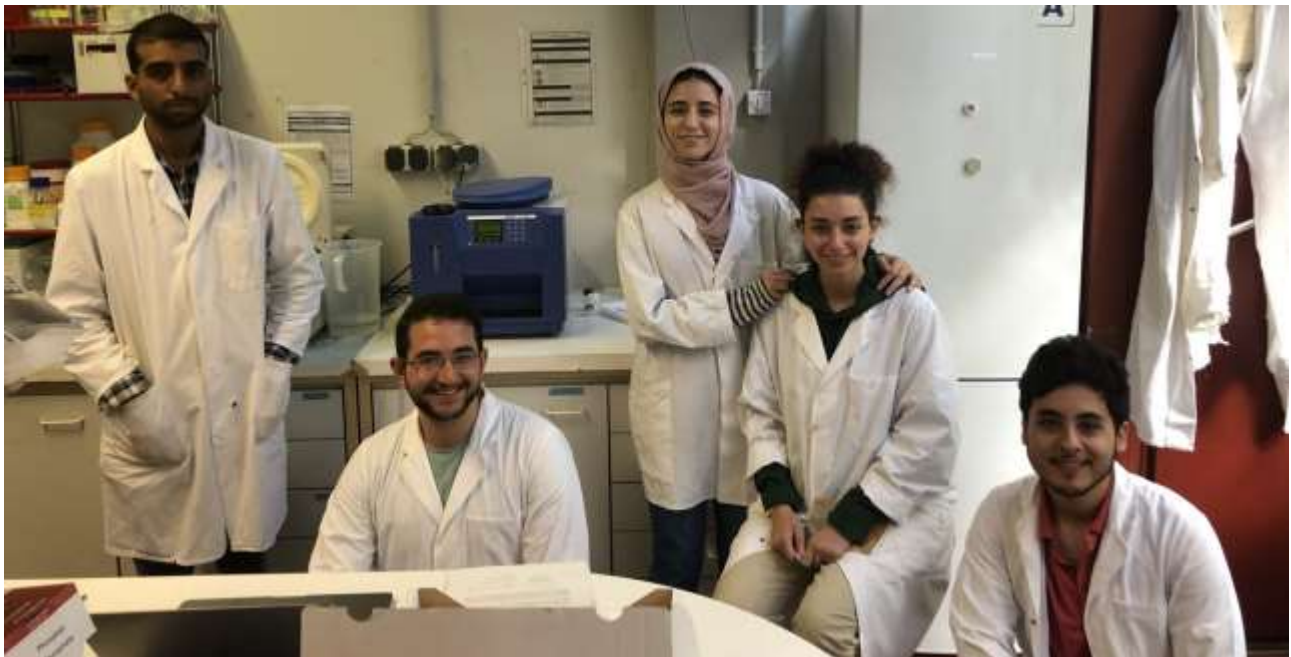


Figure 9: Determining the higher heating value of biomass samples, Group 1



Figure 10: Determining the higher heating value of biomass samples, Group 2

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## 2.6 Monday, 2<sup>nd</sup> of September – Friday, 6<sup>th</sup> of September, 2019

In the second week of the Train of Students Workshop, the participants received some tasks related to “biomass utilization”. Every day, there was the possibility for the students to ask questions to their respective supervisor. On Friday, the students presented their results (Fig. 11 and 12).

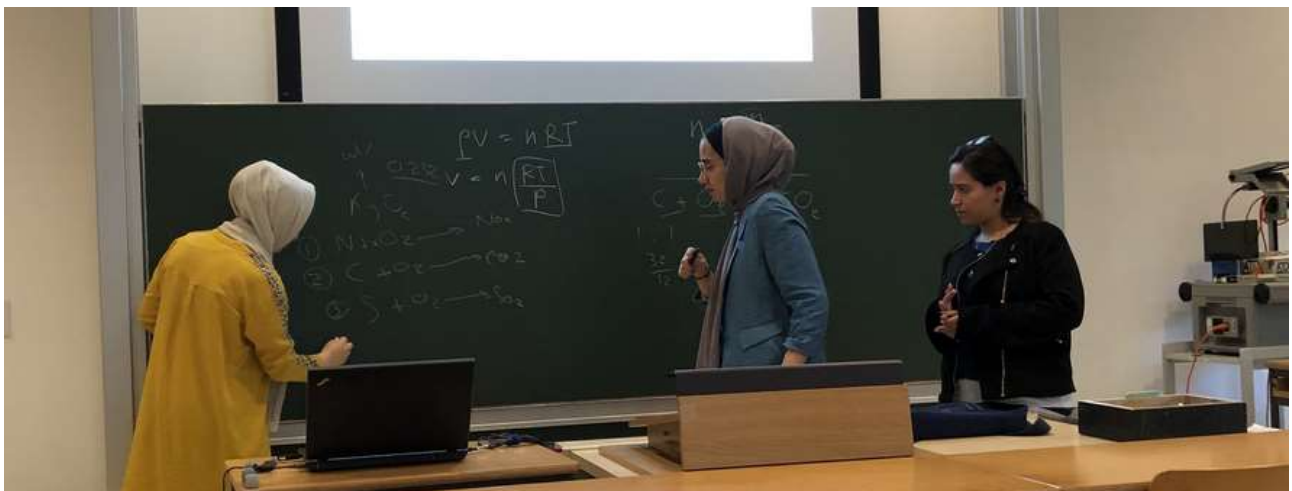


Figure 11: Presentation of results



Figure 12: Presentation of results

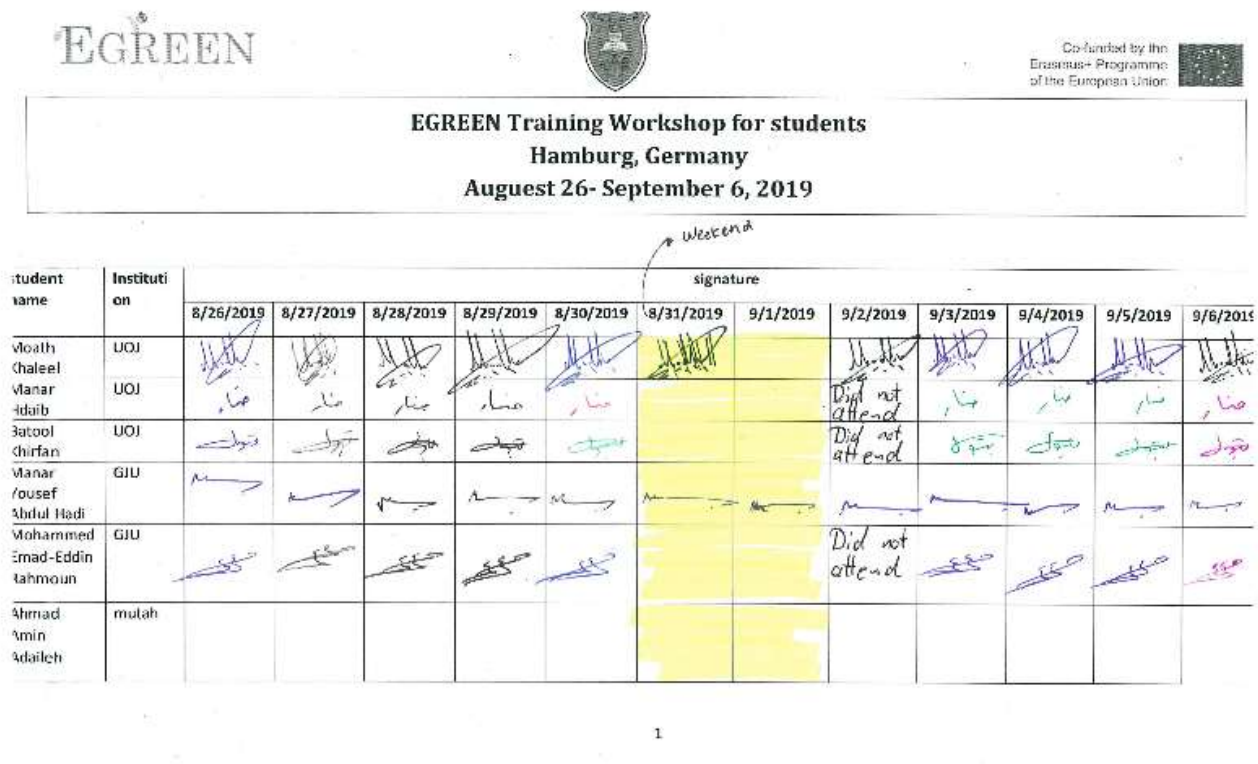
### 3 Training Material

All presentations given at TUHH as well as further information on “biomass utilization” have been collected and are available via following link:

<https://cloud.tuhh.de/index.php/s/LgZSH5qjXSSziWC>

### 4 Participant List

All participants had to fill a participants list in order to prove their attendance. The signed list is shown below.



Student name	Institution	signature											
		8/26/2019	8/27/2019	8/28/2019	8/29/2019	8/30/2019	8/31/2019	9/1/2019	9/2/2019	9/3/2019	9/4/2019	9/5/2019	9/6/2019
Moath Chaleel	UOI	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]		[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
Mansour Al-Daib	UOI	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]			Did not attend	[Signature]	[Signature]	[Signature]	[Signature]
Abdul Chirfan	UOI	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]			Did not attend	[Signature]	[Signature]	[Signature]	[Signature]
Mansour Al-Daib	GIU	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]			[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
Mohammed Emad-Eddin	GIU	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]			Did not attend	[Signature]	[Signature]	[Signature]	[Signature]
Ahmad Amin Adalbeh	Mulah												

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Figure 13: Participant List Part 1

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**EGREEN Training Workshop for students  
Hamburg, Germany  
August 26- September 6, 2019**

		26/8	27/8	28/8	29/8	30/8	31/8	1/9	2/9	3/9	4/9	5/9	6/9
U-Sakoon Mohammad U Dabbagh aja Saeed Abdullah hanan	ZUI												
aris Iassam Ihana'ah aleh SaFa brahim ialah	ZUI	Faris	Faris	Faris	Faris	Faris	Faris	Faris	Faris	Faris	Faris	Faris	Faris
Marwa med Fawzi hmoud	ZUI	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS
JENAN AYEZ MIREH	JUST												

2

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Figure 14: Participant List, Part 2



**EGREEN Training Workshop for students  
Hamburg, Germany  
August 26- September 6, 2019**

		26/8	27/8	28/8	29/8	30/8	31/8	1/9	2/9	3/9	4/9	5/9	6/9
Ua' Zakaria U Bsharat	ANBU	Alaie	Alaie	Alaie	Alaie	Alaie	Alaie	Alaie	Alaie	Alaie	Alaie	Alaie	Alaie

3

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Figure 15: Participant List, Part 3

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## 5 Evaluation Results

An online evaluation survey was filled by the participants of the Train-of-Student workshop in Hamburg. However, the survey results were collected by partners from German Jordanian University and are therefore not included in this report.