

**UMA³ training - Summer School
at Fraunhofer IFAM in Bremen, Germany
31 May – 2 June 2022**



Agenda

- See following pages

Formal and organisational notes

- For your registration please send an e-mail to the following address until May 16th 2022:
 - claus.aumund-kopp@ifam.fraunhofer.de - Subject: "UMA3 summer school"
 - fill in the attached registration form – see page 6 – and attach the form
- The summer school is free of charge.
- Travel and accommodation have to be organised and paid by each participant. A daily lunch is included.
- Accommodation
 - We have reserved rooms in the **Motel One hotel** in the city centre - please use the attached form to **book until May 2nd 2022**
 - Other hotels in or near the city centre can be found in the internet
 - A list of recommended hotels close to IFAM is also attached

Agenda of UMA³ training: Summer School 1 (SS1)

31 May – 2 June 2022 (3 days at Fraunhofer IFAM)

May 31 st – Day 1	Welcome, PM in general and AIRBUS visit
June 1 st – Day 2	Metal Powders for Powder Metallurgy and Design for AM
June 2 nd – Day 3	MATERIALISE visit, Sinter-based AM, Wrap-up

DAY 1: Welcome, PM in general and AIRBUS visit		
<p style="text-align: center;">May 31st 2022 (09:00-16:30 CET) Onsite: Fraunhofer IFAM and AIRBUS</p> <hr style="width: 50%; margin: auto;"/>		
09:00 – 10:00	1. Welcome <i>Official welcome, presentation of the agenda</i>	Claus Aumund-Kopp/all
10:00 – 11:00	2. PM in general <i>An Overview of Powder Metallurgy</i>	Prof. Frank Petzoldt or Bastian Barthel
11:15 – 12:00	3. Beam-based AM-Technologies <i>An Overview over Laser and Electron beam-based AM processes</i>	Michael Norda
12:00 – 13:00	Lunch break	all
13:00 – 14:00	Transfer to AIRBUS Bremen <i>By tram</i>	all
14:00 – 16:30	4. Site-visit AIRBUS <i>Please take your passports and vaccination certificates with you!</i>	Claus Aumund-Kopp/all
16:30	Return to your hotels <i>By tram</i>	all
19:00 – 21:00	Welcome meeting “Haus am Walde” <i>Let’s get together and get to know each other</i>	all

DAY 2: Metal Powders for Powder Metallurgy and Design for AM		
<p>June 1st 2022 (09:00-16:30 CET)</p> <p>Onsite: Fraunhofer IFAM</p> <hr/>		
09:00 – 10:00	1. Studying Production Engineering at Bremen University <i>A "field report"</i>	Christina Breitzke
10:00 – 11:30	2. Testing of metal powders for AM <i>An overview over standardized and not-standardized methods</i>	Claus Aumund-Kopp
11:45 – 12:30	3. Simulation in AM - focussing on L-PBF <i>An introduction into method and results</i>	Hannes Birkhofer (ISEMP, Bremen University)
12:30 – 13:30	Lunch break	all
13:30 – 15:00	4. Design for AM - focussing on L-PBF and MBJ <i>An introduction into design for AM</i>	Michael Norda/ Claus Aumund-Kopp
15:15 – 16:30	5. AM build job preparation - focussing on L-PBF <i>How to set-up and start an L-PBF print job</i>	Michael Norda
19:00 – 21:00	Bremen at a glance <i>Let's meet in the city centre and enjoy the evening</i>	all

DAY 3: MATERIALISE visit, Sinter-based AM, Wrap-up		
<p>June 2nd 2022 (09:00-16:30 CET)</p> <p>Onsite: Fraunhofer IFAM and MATERIALISE</p>		
09:00 – 11:00	1. Site-visit MATERIALISE <i>Let's have a look into an AM production site</i>	Tim Domagala (MATERIALISE)
11:00 – 12:30	2. L-PBF results + Lab tour <i>Looking at the printing results and the labs</i>	Michael Norda/ Claus Aumund-Kopp
12:30 – 13:30	Lunch break	all
13:30 – 14:30	3. Sinter-based Technologies – Part I <i>MoldJet, LMM, 3D Screen Printing, Gel Casting</i>	Michael Norda/ Claus Aumund-Kopp
14:45 – 15:45	4. Sinter-based Technologies – Part II <i>MBJ and FFF</i>	Michael Norda/ Claus Aumund-Kopp
15:45 – 16:30	Wrap-up and Goodbye	Michael Norda/ Claus Aumund-Kopp
19:00 – 21:00	Farewell "Ratskeller" <i>Let's say goodbye and plan for the next event ...</i>	all

Day 1: Site-visit AIRBUS

Important notes from Airbus BREMEN

- You must wear sturdy shoes (i.e. closed-toe shoes, no sandals or flip flops) to visit. Safety overshoes and bump caps will be issued at some sites and must be worn at that time.
- Tours are not suitable for wheelchair users and people with walking difficulties
- Image and sound recording, as well as cell phone use, are not permitted in the facility.
- Visitors are not allowed to move away from the group during the tour. **Please make sure to stay together with your tour group.** If you stray from the group and the plant security team goes out to search, we will search, we will have to charge you for the cost. **Visitor badges and any issued guide devices must be returned to the plant guide at the exit.** It is therefore essential that you take care of the visitor badge/guide device entrusted to you.
- Touching aircraft parts or aircraft, bringing pets, smoking, eating and drinking are not permitted in the hangars.
- Drinking and smoking are not permitted in the hangars. Cell phones must be turned off during the entire tour. Guests who are under the influence of alcohol (0.0 per mile) or whose safety we have to worry about for other reasons cannot take part in the tour. The Airbus plant security decides on the access to the plant premises.
- In noise protection areas marked with the corresponding blue symbol, the wearing of hearing protection is mandatory. You can obtain these free of charge from the ear protection dispensers at the corresponding entrances. Airbus/Globetrotter accepts no liability for hearing damage if you do not wear this protection.
- All business information of Airbus Operations GmbH/Airbus Defense and Space GmbH/Premium Aerotec GmbH and its business partners that becomes known to you during your tour at Airbus Operations GmbH/Airbus Defense and Space GmbH/Premium Aerotec GmbH must be kept confidential from third parties. This also applies to internal Airbus Operations GmbH/ Airbus Defense and Space GmbH/Premium Aerotec GmbH information such as technical and structural facilities, production methods and processes. This applies in particular to the publication of information after a guided tour. All publications must be approved by Airbus Operations GmbH/ Airbus Defense and Space GmbH/Premium Aerotec GmbH via Globetrotter Erlebnis GmbH.
- Airbus as the host and Globetrotter as the organizer reserve the right to suspend or cancel guided tours without replacement - even at short notice - for operational or safety-related reasons. In this case, no fees will be charged, but no claims for damages can be asserted against Globetrotter or Airbus.
- The instructions of the plant guide or plant security personnel must be followed.
- In the event of misconduct or disruption of the tour, Airbus/Globetrotter may expel you from the premises even during the tour.
- **ID check: Please be sure to bring your valid ID card or passport, otherwise you will not be admitted to the factory! Photocopies, driver's licenses or other documents will not be accepted to enter the security area.**



I herewith register bindingly for the UMA3 summer school at Fraunhofer IFAM in Bremen, Germany, from 31 May to 2 June 2022.

I will organise travel and accommodation myself.

First name	
Family name	
Date of Birth *	
Place of birth *	
Nationality *	
Affiliation	
Graduation (Student/postdoc/other)	
E-mail-address	
Mobile number **	

* necessary for the site visits

** necessary in case of an emergency

Place/date/signature

Contact information

<p>Claus Aumund-Kopp</p> <p>Group Leader Additive Manufacturing Department Powder Technology</p> <p>Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM</p> <p>Wiener Straße 12 28359 Bremen GERMANY</p> <p>Tel + 49 421 2246 - 226 Fax -300</p> <p>claus.aumund-kopp@ifam.fraunhofer.de www.ifam.fraunhofer.de/am</p>	<p>Michael Norda</p> <p>Project Manager Additive Manufacturing Department Powder Technology</p> <p>Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM</p> <p>Wiener Straße 12 28359 Bremen GERMANY</p> <p>Tel + 49 421 2246 - 231 Fax -300</p> <p>Michael.norda@ifam.fraunhofer.de www.ifam.fraunhofer.de/am</p>
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Call-off contingent "UMA 3"
31.05.2022 - 02.06.2022
Bookable until 02.05.2022

Please fax this booking back to

Motel One Bremen

Fax number: **+49 421 409540-10** or by e-mail to: bremen@motel-one.com

Please reserve the following overnight stay/s for me at:

Motel One Bremen
 Am Brill 10
 28195 Bremen

Company/Address:			
Phone number:		Fax number:	
E-Mail:			
Arriving person(s):			
Arrival:		Departure:	

Room category:	Number of rooms:	Price:
The One for single use:		at 85,00 EUR per room/night including breakfast
The One for double use:		at 106,00 EUR per room/night including breakfast

<input type="checkbox"/> Visa	<input type="checkbox"/> American Express	<input type="checkbox"/> MasterCard	<input type="checkbox"/> Diners Club
Credit card number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		
Valid until:	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/>		
Cardholder:	(First name, Last Name)		
CVV/Check number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> (usually consists of 3 or 4 digits)		
Is it a virtual credit card?	<input type="checkbox"/> Yes <input type="checkbox"/> No		

The room will be held for you until 18:00 on the day of arrival. If you do not arrive by 18:00, your booking will be cancelled automatically and free of charge. You will then no longer be entitled to the room. If you wish to guarantee the room for a later arrival, please confirm this letter with a legally valid signature and your credit card number, stating the period of validity, by fax or e-mail. Your credit card will not be charged in advance.

The total amount is to be paid upon arrival. The room is available from 15:00 on the day of arrival and until 12:00 on the day of departure.

Furthermore, our General Terms and Conditions apply, which you can view on our website:

<http://www.motel-one.com/de/agb/> .

 Date, Signature, Stamp

IFAM hotel recommendations 2022

hotel	adress	phone, fax, www	Rate	Booking code	Approach/distance to IFAM
Atlantic Hotel Universum **** -Hotel	Wiener Str. 4 28359 Bremen	+49-421-2467-555 +49-421-2467-500 <i>www.atlantic-hotels.de</i>	<u>Business Class:</u> single € 99,00 / double € 129,00 (incl. breakfast) <u>Economy Class:</u> single € 79 / double € 100 plus 9,00€ / Pers. Breakfast	IFAM	400 m walk
7 THINGS my basic hotel ** -Superior Hotel	Universitätsallee 4 28359 Bremen	0421 / 69677377 0421 / 69655166 <i>www.7things-hotel.de</i>	EZ € 65,00 / DZ € 75,50 plus 7,50 € Breakfast	Fraunhofer	800 m walk
Munte am Stadtwald ****-Hotel	Parkallee 299 28213 Bremen	+49-421-2202-605 / 621 +49-421-2202-609 <i>www.hotel-munte.de</i>	single € 104,00 / €119,00 double € 119,00 / € 149,00 (included breakfast)	Fraunhofer	800 m walk