
AIST @ Fraunhofer IFAM

Workshop on Joint R&D in Adhesive Bonding

**National Institute of Advanced Industrial Science and Technology AIST
Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM
Representatives of Japanese Industry**

Bremen

2016-10-25 and 2016-10-26

Agenda V.1.0.0

Gerhard Pauly

Fraunhofer IFAM, Germany



Name	Organisation
Dr. Haruhisa AKIYAMA Dr. Lorenz GRANRATH Dr. Shin HORIUCHI Dr. Takayuki MIYAMAE Prof. Chiaki SATO Dr. Tadatake SATO Dr. Yukihiro SHIMOI Dr. Nao TERASAKI	National Institute of Advanced Industrial Science and Technology AIST
Kai BRUNE Dr. Holger FRICKE Prof. Andreas GROSS Prof. Andreas HARTWIG Dr. Oliver KLAPP Prof. Bernd MAYER Dr. Erik MEISS Gerhard PAULY Dr. Christoph REGULA Prof. Horst RIKEIT Christian SCHUCH Dr. Volkmar STENZEL Dr. Klaus VISSING Anja ZOCKOLL	Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM

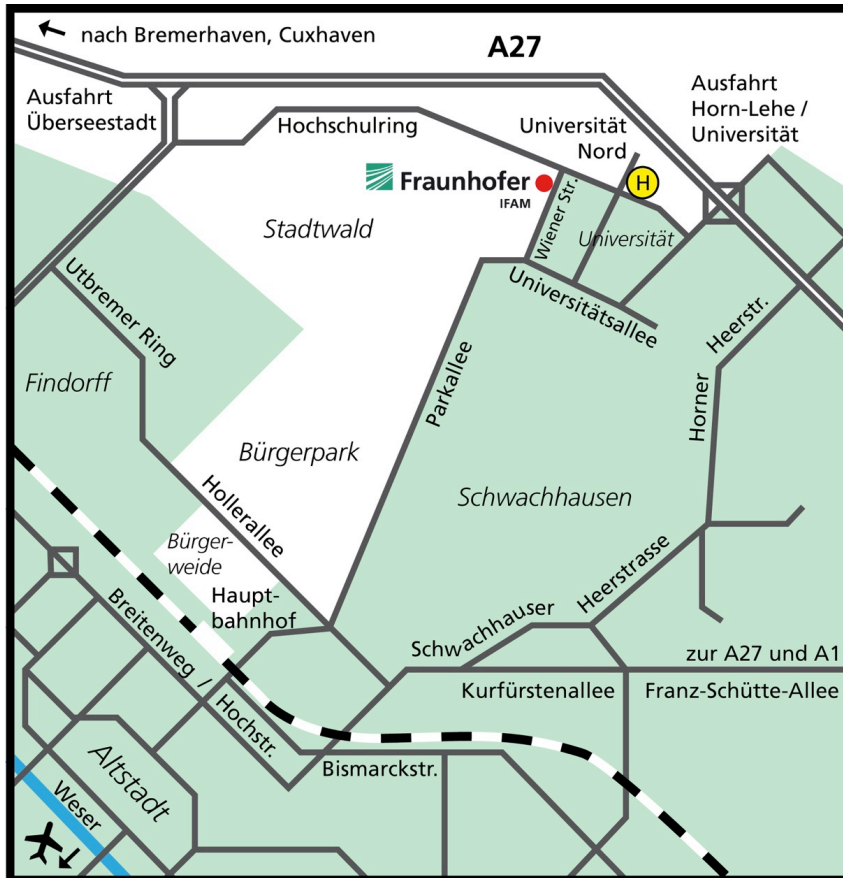
Time	Topic	Lead
08:30 – 09:00	Registration & coffee	
09:00 – 09:30	Welcome and Introduction	<ul style="list-style-type: none"> • Prof. B. MAYER • Prof. C. SATO
09:30 – 10:00	<ul style="list-style-type: none"> • Introduction of AIST - Japanese National Institute of Advanced Industrial Science and Technology • Introduction of Fraunhofer IFAM 	<ul style="list-style-type: none"> • Dr. L. GRANRATH • Prof. B. MAYER
10:00 – 12:30	Scientific presentations <ul style="list-style-type: none"> • Functionally graded joints for reducing thermal deformation • Visualization of strain distribution related to adhesive through mechanoluminescence • Mechanism of polypropylene adhesion by surface treatments • Analysis of the material surfaces and adhesive interfaces by sum-frequency generation spectroscopy • Molecular Dynamics Simulations Investigation of Adhesion Behaviors of Polymer-Metal Interfaces • Detection of trace substance adhered on surface by laser-induced breakdown spectroscopy (LIBS) • Photochemically reversible adhesives 	<ul style="list-style-type: none"> • Prof. C. SATO • Dr. N. TERASAKI • Dr. S. HORIUCHI • Dr. T. MIYAMAE • Dr. Y. SHIMOI • Dr. T. SATO • Dr. H. AKIYAMA
12:30 – 13:30	Lunch break	

AIST @ IFAM Agenda Day 1 – Oct 25th (cont'd)

Time	Topic	Lead
13:30 – 16:00	Scientific presentations (cont'd) <ul style="list-style-type: none"> • New approaches in adhesive chemistry • FE Analysis of Adhesively Bonded Structures • Surface technology from basic research to industrial application • Quality assurance concepts for adhesive bonding technology • Surface pre-treatment and corrosion protection of light weight alloys and metal / CFRP joints • Riblet application by paint technology • Optimizing processes for adhesive bonding 	<ul style="list-style-type: none"> • Prof. A. HARTWIG • Dr. O. KLAPP • Dr. C. REGULA • K. BRUNE • A. ZOCKOLL • Dr. V. STENZEL • Dr. H. FRICKE
16:00 – 16:30	Coffee break	
16:30 – 17:30	Scientific presentations (cont'd) <ul style="list-style-type: none"> • Workforce qualification at Fraunhofer IFAM – national and international training courses • Adhesive bonding & assembly in the Factory of the Future 	<ul style="list-style-type: none"> • Dr. E. MEISS • Dr. D. NIERMANN
17:30 – 17:45	Conclusions of day 1	
18:00	Transfer to the hotel(s)	
19:30	Guided tour in the historical center of Bremen	
20:30	Dinner	

Time	Topic	Lead
08:30 – 12:30	IFAM lab tour <ul style="list-style-type: none"> • Adhesion and Interface Research • Plasma Technology and Surfaces • Paint and Lacquer Technology • Material Science and Mechanical Engineering • Adhesive Bonding Technology • Automation and Production Technology • Workforce Qualification and Technology Transfer 	<ul style="list-style-type: none"> • Dr. S. DIECKHOFF • Dr. C. REGULA • Dr. V. STENZEL • Dr. O. KLAPP • Dr. H. FRICKE • Dr. D. NIERMANN • Prof. A. GROSS
12:30 – 13:30	Lunch break	
13:30 – 13:45	Towards quality assured adhesive bonding processes in industry by application of DIN 6701 / 2304	• C. SCHUCH
13:45 – 15:15	Workshops <ul style="list-style-type: none"> • Requirements of industry - technical demands and potential ways of collaboration • Matchmaking with industry and research and technology organizations (RTO) - identification of concrete collaboration topics • Policy support 	<ul style="list-style-type: none"> • H. MIKI • Dr. L. GRANRATH • G. PAULY
15:15 – 15:45	Coffee break	
15:45 – 16:00	Presentation of workshop results	Granrath, Miki, Pauly
16:00 – 16:30	Summary and next steps	G. PAULY
16:30	Closure of the meeting	Prof. B. MAYER

Travel Information



By car

Freeway A 27, exit Horn-Lehe/Universität in direction University; at the first traffic light turn right into the Hochschulring. After about 1 km turn left into the Wiener Straße. Parking facility behind the institute (Gate).

By train

From Bremen main station use tram No. 6 (line E) in direction University, leave at Klagenfurter Straße (16 min.). Turn right and follow Hochschulring to Wiener Straße. About 500 m's walk to the IFAM.

By air

From Bremen Airport use tram No. 6 to University, leave at Klagenfurter Straße (25 min.). Turn right and follow Hochschulring to Wiener Straße. About 500 m's walk to the IFAM.

Hotel recommendations

Hotel	Address	Contact (phone, fax, web)	Booking code	Approach / distance to IFAM
Atlantic Hotel Universum **** -Hotel	Wiener Straße 4 28359 Bremen	+49-421-2467-555 +49-421-2467-500 www.atlantic-hotels.de	IFAM 2016	400 m walk
7 THINGS my basic hotel ** -Superior Hotel	Universitätsallee / Ecke Tönjes-Vagt-Weg 28359 Bremen	+49-421- 6967 7377 +49-421-6965 5166 www.7things-hotel.de	Fraunhofer IFAM	800 m walk
Munte am Stadtwald ****-Hotel	Parkallee 299 28213 Bremen	+49-421-2202-0 +49-421-2202-609 www.hotel-munte.de	Fraunhofer	800 m walk
prizeotel Bremen-City	Theodor-Heuss-Allee 12 28215 Bremen close to the central station	+49-421-2222-100 +49-421-2222-101 www.prizeotel.com		tram no 6 from central station to Klagenfurter Straße + 500 m walk
... and many other hotels in Bremen				

REGISTRATION

until October 12th 2016

AISt @ IFAM - WORKSHOP ON JOINT R&D IN ADHESIVE BONDING AT FRAUNHOFER IFAM BREMEN October 25th and 26th 2016

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Fraunhofer Institute for Manufacturing Technology
and Advanced Materials IFAM
Wiener Strasse 12 | 28359 Bremen | Germany

Name

Given name

Organisation

Department

Road | Building | Block | City District

City | Municipality

Prefecture | Postal Code

Country

Phone

E-Mail

Signature / Stamp

Japanese address in the international notation.

Cancellation policy: In case of cancellation up to seven days prior to the workshop 50 % of the registration fee will be charged. For a later cancellation the full registration fee will be charged. Change of representatives of registered representative will be accepted.

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FURTHER INFORMATION

Date and location of the joint workshop

October 25th and 26th 2016

Fraunhofer Institute for Manufacturing Technology
and Advanced Materials IFAM | Wiener Strasse 12 |
28359 Bremen | Germany | www.ifam.fraunhofer.de

Registration fee and service

The registration fee is 250 € and includes:

- ┆ Lunch and catering
- ┆ Social event on Tuesday, October 25th

The attendance is limited. Please register using the form left hand by fax,
letter or scanned by email. You will receive the bill by email.

Closing date is October 12th 2016

Questions on the registration will be responded by:

Gerhard Pauly

Telefon +49 421 2246-7418

Fax +49 421 2246-300

gerhard.pauly@ifam.fraunhofer.de

Hotel reservation

Hotel Munte | Parkallee 299 | 28213 Bremen

Phone +49 421 2202-0 | info@hotel-munte.de | www.hotel-munte.de

7THINGS – my basic hotel | Universitätsallee 4 | 28359 Bremen

Phone +49-421 696 77 377 | info@7things-hotel.de | www.7things-hotel.de

*Five minutes walking distance to Fraunhofer IFAM. Please reserve directly in
the hotel under the **KEYWORD »AISt«** (depending on availability).*

Images:

[1] ComBoNDT: Non-destructive detection of fingerprints on adherend surface by Aerosol-Wetting-Test.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 636494.

[2] SARISTU: Active morphing winglet that reduces fuel consumption, noise and exhaust emissions. Manufactured in cooperation with Airbus Group Innovations and FACC, NLR and FIDAMC.



This project has received funding from European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement 284562.

[3] JEDI ACE: Icing wind tunnel at Fraunhofer IFAM.



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement 314335 and from the Japanese Ministry of Economy, Trade and Industry.



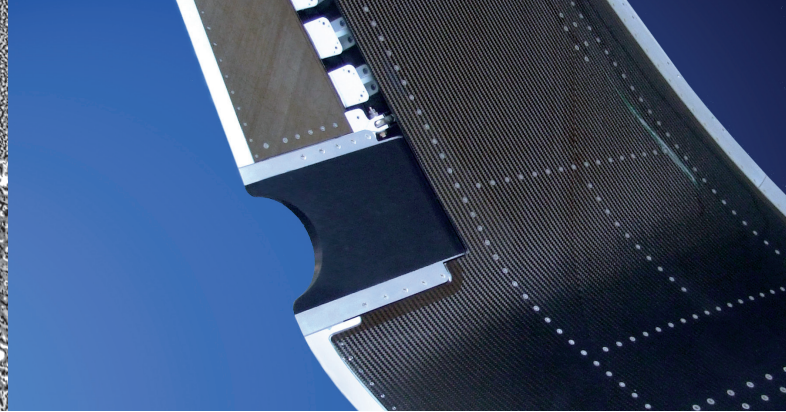
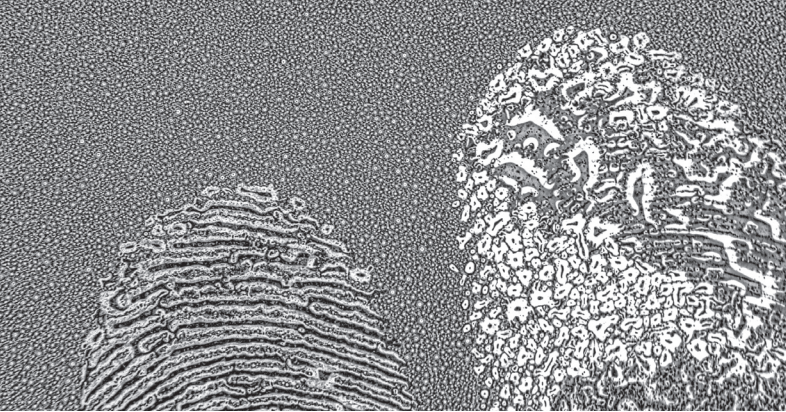
 **Fraunhofer**
IFAM

 **AISt**
NATIONAL INSTITUTE OF
ADVANCED INDUSTRIAL SCIENCE AND TECHNOLOGY (AISt)

FRAUNHOFER INSTITUTE FOR MANUFACTURING
TECHNOLOGY AND ADVANCED MATERIALS IFAM

AISt @ IFAM - WORKSHOP ON JOINT R&D IN ADHESIVE BONDING AT FRAUNHOFER IFAM October 25th and 26th 2016





Adhesive bonding is a highly versatile technology widely applied in innumerable products ranging from simple household articles to high tech goods such as vehicles and aircrafts. Continuous research and development results permanently in further innovations in manufacturing processes and in commodities with better performance at lower prices.

The Japanese-German Workshop on Joint R&D in Adhesive Bonding is a networking event involving

- National Institute of Advanced Industrial Science and Technology AIST,
- Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM,
- Industrial companies from Japan and their European subsidiaries.

The workshop and networking event aims at presenting the complementary competencies available at AIST and IFAM in the field of in adhesive bonding technologies and at identifying topics suitable for collaborative research with industry.

Day 1 is dedicated to lectures demonstrating the diversity of the field and the broadness of scientific research and technological development at all Technology Readiness Levels (TRL). In the evening a social event will give room to further discussion and facilitate networking. Day 2 will start with a lab tour underpinning the lectures of day 1 by selected demonstrators. After lunch break workshops on industrial needs and requirements and on potential topics of mutual interest will take place. Finally information on public funding in the framework of e.g. Horizon 2020 - The EU Framework Programme for Research and Innovation - will be provided.

Tuesday, October 25th 2016 – Symposium

08:30 h to 09:00 h Registration & coffee

09:00 h to 10:00 h Welcome and Introduction

10:00 h to 12:30 h Scientific presentations

■ Functionally graded joints for reducing thermal deformation | *Prof. C. SATO*

■ Visualization of strain distribution related to adhesive through mechanoluminescence | *Dr. N. TERASAKI*

■ Mechanism of polypropylene adhesion by surface treatments | *Dr. S. HORIUCHI*

■ Analysis of the material surfaces and adhesive interfaces by sum-frequency generation spectroscopy | *Dr. T. MIYAMAE*

■ Molecular Dynamics Simulations Investigation of Adhesion Behaviors of Polymer-Metal Interfaces | *Dr. Y. SHIMOI*

■ Detection of trace substance adhered on surface by laser-induced breakdown spectroscopy (LIBS) | *Dr. T. SATO*

■ Photochemically reversible adhesives | *Dr. H. AKIYAMA*

12:30 h to 13:30 h Lunch break

13:30 h to 16:00 h Scientific presentations

■ New approaches in adhesive chemistry | *Prof. A. HARTWIG*

■ FE Analysis of Adhesively Bonded Structures | *Dr. O. KLAPP*

■ Surface technology from basic research to industrial application | *Dr. C. REGULA*

■ Quality assurance concepts for adhesive bonding technology | *K. BRUNE*

■ Surface pre-treatment and corrosion protection of light weight alloys and metal / CFRP joints | *A. ZOCKOLL*

■ Riblet application by paint technology | *Dr. V. STENZEL*

■ Optimizing processes for adhesive bonding | *Dr. H. FRICKE*

16:00 h to 16:30 h Coffee break

16:30 h to 17:30 h Scientific presentations

■ Workforce qualification at Fraunhofer IFAM – national and international training courses | *Dr. E. MEISS*

■ Adhesive bonding & assembly in the Factory of the Future | *Dr. D. NIERMANN*

17:30 h to 17:45 h Conclusion of the Symposium part

19:30 h Guided tour in the historical center of Bremen

20:30 h Dinner

Wednesday, October 26th 2016 – Workshop

08:30 h to 12:30 h IFAM lab tour

12:30 h to 13:30 h Lunch break

13:30 h to 13:45 h Towards quality assured adhesive bonding

13:45 h to 15:15 h Workshops

15:15 h to 15:45 h Coffee break

15:45 h to 16:00 h Presentation of workshop results

16:00 h to 16:30 h Summary and next steps

16:30 h Closure of the meeting

QUESTIONS ON THE WORKSHOP WILL BE ANSWERED BY:

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