



第4回つくば国際コーティングシンポジウム

4th Tsukuba International Coatings Symposium 2010

ーコーティング技術のフロンティア：プロセスの革新と応用展開ー

今日、輸送機器、エネルギー機器、機能デバイス等で厚膜コーティングの重要性が注目されています。このたび第4回つくば国際コーティングシンポジウムを開催し、物質・材料研究機構と産業技術研究所のコーティング研究者が一同に介し、最近の研究成果についての発表を行うことになりました。また、各セッションにおいては内外の第一線の講師を招き、現状のコーティング技術の問題点と将来動向について討議をします。御関心のある方の参加を歓迎いたします。

主 催：独立行政法人 物質・材料研究機構
独立行政法人 産業技術総合研究所

協 賛：日本金属学会、日本防錆技術協会、日本溶射協会、表面技術協会、
腐食・防食協会、日本セラミックス協会（順不同）

会 期：平成22年12月9日（木）～10日（金）

会 場：物質・材料研究機構 千現地区 研究本館 第一会議室
〒305-0047 茨城県つくば市千現1-2-1

セッション（予定）：(1) 革新的コーティングプロセス
(2) 耐環境コーティング
(3) 成膜現象の基礎

資料代：5,000円（学生無料）

懇親会：3,000円

<http://www.nims.go.jp/cccenter/coating/sympo/>

申し込み：FAXまたはE-mailにて11月30日（火）までにお申し込みください。
事前のお申し込みがなくてもご参加いただけますが、会場準備の都合上
事前の登録にご協力をお願い致します。

資料代・懇親会参加費は当日徴収させていただきます。

・ プログラム ・ 申込用紙 PDF 形式 MS Word 形式

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4th Tsukuba International Coating Symposium

—Frontiers of Coatings Technology : Innovative Processes and Applications —

Organizers :

National Institute for Materials Science (NIMS)
National Institute of Advanced Industrial Science and Technology (AIST)

Supporting organizations:

Japan Institute of Metals
Japan Association of Corrosion Control
Japan Thermal Spray Society
The Surface Finishing Society of Japan
The Ceramic Society of Japan

Period :

December 9th to 10th, 2010

Venue:

National Institute for Materials Science, Sengen Site, Main conference room
1-2-1, Sengen, Tsukuba, Ibaraki, 305-0047 Japan

Scope:

Importance of various protective and functional coatings are more strongly recognized in industry today. Active researchers from NIMS and AIST confer here to present our most recent results, share and exchange opinions with invited speakers from overseas and from Japan, as well as with the audience. Laboratory tour will include warm spray and aerosol deposition facilities in NIMS and AIST.

Sessions :

- (1) Current status of spray deposition processes
- (2) Aerosol deposition
- (3) Coatings for high temperature applications
- (4) New deposition processes using liquid feedstock
- (5) Cold and warm spraying

Invited speakers :

R. Braun (DLR, Germany), Environmental protection capability of different coating systems deposited on gamma titanium aluminides
T. Klassen (Helmut Schmidt University Hamburg, Germany), Cold Spraying: Mechanisms, Developments and Applications
M. Fukumoto (Toyohashi University of Technology, Japan) , Splat problem in both thermal and cold spray

A. Denoirjean (University of Limoges, France), Principle and Application of Suspension Plasma Spraying
Dong-Soo Park(KIMS, Korea), Aerosol Deposition in Korea: An Attractive Way to Deposit Ceramic Films
Songmin NAM (Kwangwoon University, Korea) , Aerosol Deposition for Electronic Device Application

Speakers from NIMS and AIST:

S. Kuroda (NIMS), Principle and application of warm spraying
J. Akedo (AIST), Current status of aerosol deposition
H. Murakami (NIMS), NIMS coatings research for high temperature environment
A. Endo (AIST), Laser-assisted ink-jet process
S. Baba (AIST), Energy-assisted aerosol deposition
M. Watanabe (NIMS), Cermet coatings by warm spraying
M. Suzuki (AIST), Suspension Plasma Spraying by Twin Cathode Plasma Spray System

Registration:

Proceedings fee : ¥ 5,000 (Students are free)
Get-together party : ¥3,000

Registration :

Please send an E-mail with the following information for registration.

E-mail:cccenter@nims.go.jp

Registration sheet

4th Tsukuba International Coatings Symposium, 2010

Name :

Address :

Affiliation :

TEL :

FAX :

E-mail :

Mark sessions you plan to participate with O, please.

Dec. 9 (Thursday)	Symposium	()
	Get-together party	()
Dec. 10 (Friday)	Symposium	()
	Laboratory tour	()

第4回 つくば国際コーティングシンポジウム参加申込書

FAX 029-859-2401

フリガナ 参加者氏名		
勤務先	所属	
	住所	(〒 -)
	TEL	
	FAX	
	E-Mail	
12月9日(木) シンポジウム	<input type="checkbox"/> 参加 <input type="checkbox"/> 不参加	
12月9日(木) 懇親会	<input type="checkbox"/> 参加 <input type="checkbox"/> 不参加	会費 3,000 円
12月10日(金) シンポジウム	<input type="checkbox"/> 参加 <input type="checkbox"/> 不参加	
12月10日(金) 見学ツアー	<input type="checkbox"/> 参加 <input type="checkbox"/> 不参加	
ご質問等		

申込先：独立行政法人 物質・材料研究機構 ハイブリッド材料センター
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担当 吉田

4th Tsukuba International Coatings Symposium, Program

December 9 (Thursday)

9:00~9:10 **Opening**
Seiji Kuroda (NIMS)

Current status of spray deposition Processes

Chairs: Sodeoka, Kuroda

9:10~9:50 **Cold Spraying: Mechanisms, Developments and Applications**
(40min) ○T. Klassen(Helmet Schmidt University Hamburg, Germany)

9:50~10:30 **Splat Problem in both Thermal and Cold Spray**
(40min) ○M. Fukumoto (Toyohashi University of Technology, Japan)

10:30~10:50 **Break**

Aerosol deposition 1

Chairs: Gaertner, Murakami

10:50~11:20 **Current Status of Aerosol Deposition Technology**
(30min) ○J. Akedo (AIST)

11:20~11:50 **Aerosol Deposition in Korea: An Attractive Way to Deposit Ceramic Films**
(30min) ○D.S. Park (KIMS, Korea)

11:50~13:30 **Lunch Break**

Aerosol deposition 2

Chairs: Denoirjean, Suzuki

13:30~14:00 **Aerosol Deposition for Electronic Device Application**
(30min) ○S. Nam (Kwangwoon University, Korea)

14:00~14:30 **Development of Mesoporous Ceramic Coatings for High Performance DSC by Vacuum Cold Spraying**
(30min) ○C.J.Li (Xi'an Jiaotong University, China)

14:30~15:00 **Aerosol Deposition Technology for Microelectronic Packaging**
(30min) ○Y. Imanaka(Fujitsu Co.Ltd)

15:00~15:30 **Technological Development of Aerosol Deposition at TOTO Ltd.**
(30min) ○H. Hatono(TOTO Co)

15:30~15:50 **Coffee Break**

Aerosol deposition 3

Chairs: Park(D.S.), Nam(S.M.)

15:50~16:05 **Superconducting MgB₂ Thick Films by AD Proces**
(15min) ○S.Hirose(AIST)

16:05~16:20 **Development of Novel Nanocomposite Films by Aerosol Deposition.**
(15min) ○J.H.Park(AIST)

16:20~16:35 **Thermal Conductivity Reduction in Films by Aerosol Deposition**
(15min) ○S.Baba(AIST)

16:35~16:50 **Ceramic Films Fabricated by Aerosol Deposition for Optical Applications**
(15min) ○H.Tsuda(AIST)

- 16:50~17:05 **Aerosol Deposition Technique in All-solid-state Li-ion Battery Research**
(15min) ○D.Popovici(AIST)
- 17:05~17:20 **Dielectric properties for barium titanate ceramic films prepared by aerosol deposition method**
(15min) ○M.Suzuki(AIST)
- 17:30~19:00 **Get-together Party** (NIMS Dining Hall)
Special entertainment by NIMS Music Guild Quartet

December 10 (Friday)

Coating for high temperature applications

Chairs: Li(C-J), Klassen

- 9:00~9:40 **Environmental Protection Capability of Different Coating Systems Deposited on Gamma Titanium Aluminides**
(40min) ○R. Braun (DLR, Germany)
- 9:40~10:20 **NIMS Coatings Research for High Temperature Environments**
(40min) ○H. Murakami (NIMS)

10:20~10:40 **Coffee Break**

New deposition processes using liquid feedstock

Chairs: Hirose, Sato

- 10:40~11:20 **Principle and Application of Suspension Plasma Spraying**
(40min) ○A. Denoirjean (University Limoges, France)
- 11:20~11:40 **Suspension Plasma Spraying by Twin Cathode Plasma Spray System**
(20min) ○M. Suzuki (AIST)
- 11:40~12:00 **Laser Assisted Inkjet Technology for Electric Circuit Patterning**
(20min) ○A. Endo (AIST)

12:00~13:20 **Lunch Break**

Cold and warm spraying

Chairs: Kim(K.H.), Murakami

- 13:20~14:00 **Principle and Application of Warm Spray**
(40min) ○S. Kuroda (NIMS)
- 14:00~14:20 **WC-Fe alloy cermet material for new frontier of thermal spray**
(20min) ○K. Sato (Fujimi Inc)
- 14:20~14:40 **Properties of Cermet Coatings Fabricated by Warm Spraying**
(20min) ○M. Watanabe (NIMS)
- 14:40~15:00 **Cold Sprayed Coatings for Printing Rolls**
(20min) ○K. Onizawa (Helmut Schmidt University Hamburg, Germany)
- 15:00~15:20 **Evaluation of Mechanical Properties of Kinetically Sprayed Coatings**
(20min) ○F.Gaertner (Helmut Schmidt University Hamburg, Germany)

15:20~15:25 **Closing**
Jun Akedo (AIST)

Laboratory Tour of NIMS & AIST

- 15:30~16:00 NIMS Warm spray facility and demonstration
Move to AIST site by bus
- 16:20~17:30 AIST Aerosol deposition facility and demonstration