



ELYT Workshop 2019

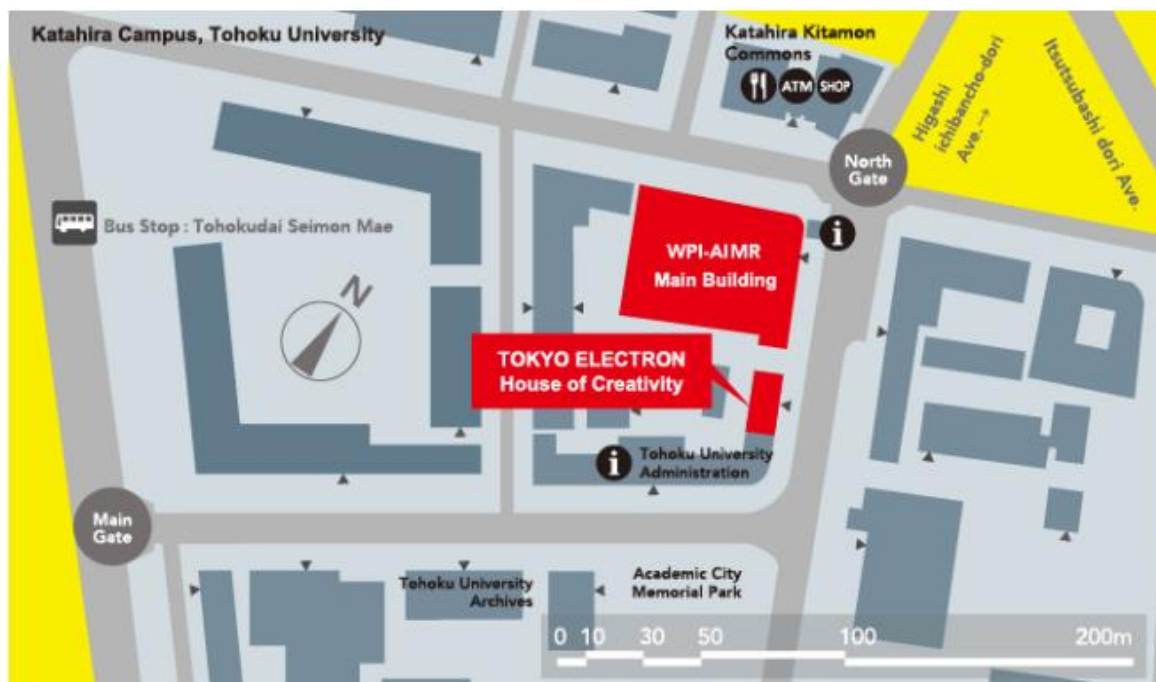
On-Campus Workshop

Date: March 9 (Sat.) 13:10 – 19:30
Venue: 3F Lecture Room, House of Creativity (13:10 – 17:20),
1F lobby, AIMR Main Building (17:30 –),
Katahira Campus, Tohoku University

Program

- | | |
|---------------|--|
| 12:50 – | Registration |
| 13:10 – 13:20 | Opening |
| 13:20 – 13:40 | Funding schemes for public-private cooperation
Sandrine MAXIMILIEN (Attachée for Science & Technology,
Ambassade de France au Japon) |
| 13:40 – 14:00 | Miyagi: Comfortable Environment for Research and Living
Yoshiko NARITA (International Affairs Division, Miyagi Prefectural
Government) |
| 14:00 – 14:30 | Building a new range of Photon Science
– Challenge of the Super Lightsource for Industrial Technology Japan (SLIT-J) –
Masaki TAKATA (Tohoku University) |
| 14:30 – 15:00 | Michelin R&D partnerships : global overview and examples in Japan
Pierre ZERLAUTH (Nihon Michelin Tire Co. Ltd.) |
| | Break |

- 15:20 – 15:50 Collaboration between HFLSM and LNCMI on high temperature superconducting magnet
Satoshi AWAJI (Tohoku University)
- 15:50 – 16:20 Crystal plasticity numerical analyses and some applications for steel industries
Takayuki OTSUKA (Nippon Steel & Sumitomo Metal Corporation)
- 16:20 – 16:50 Start up the business with next generation of vascular model
– Blue Practice, the solution company for medical simulation & training –
Koji SUZUKI (Blue Practice Co., Ltd.)
- 16:50 – 17:20 ELyT Programs as a Platform for Collaboration by Université de Lyon, Tohoku University and CNRS
Gael SEBALD (ELyTMaX), Kazuhiro OGAWA (Tohoku University), Julien FONTAINE (ECL), Tetsuya UCHIMOTO (Tohoku University), Damien FABREGUE (INSA-Lyon), Yutaka SATO (Tohoku University), Jean-Yves CAVAILLE (Tohoku University)
- Strategy of Université de Lyon in Japan
Jean-Yves CAVAILLE (Tohoku University) and Gael SEBALD (ELyTMaX)
- 17:30 Poster Session / Reception (1F Lobby, AIMR Main Building)



http://www.tfc.tohoku.ac.jp/about_us/contact_and_access.html



ELyT Workshop 2019

10th annual workshop

Naruko Kanko Hotel, Osaka, Japan

March 10th-12th, 2019

Program

Program of ELyT Workshop 2019

Sunday, March 10th

- 10:00 Leaving Katahira Campus for Naruko by chartered bus
- 12:00 Lunch

Session 1			
D. NELIAS (INSA-Lyon), K. ADACHI (TU)			
<i>Time</i>	<i>Title</i>	<i>Author(s)</i>	<i>Project</i>
13:20	Welcome address		
13:40	INVITED 1 : Welding and Joining Researches at Sato Laboratory	Y. S. SATO	
14:10	High-order accurate flow simulation for aeronautical problems	Y. ABE	
14:30	Self-sustained superlubricity of glycerol in a steel/ta-C contact	Y. LONG, M. KUBO M.-I. DE BARROS BOUCHET, J. M. MARTIN	SuperLub
14:50	Liquid metal dealloying: formation and coarsening	P.-A. GESLIN, T. WADA, H. KATO, T. SUGA	DeProMiNa
15:10	FeCr composites: liquid metal dealloying process and its applications	M. MOKHTARI, C. LE BOURLOT, P.-A. GESLIN, E. MAIRE, J. DUCHET-RUMEAU, H. KATO, T. WADA	DeProMiNa

<i>Time</i>	<i>Title</i>	<i>Author(s)</i>	<i>Project</i>
15:30	Optimizing surface finish to Prevent SCC initiation in energy industries	H. ABE, N. MARY, T. MIYAZAKI, Y. WATANABE, B. TER-OVANESSIAN, B. NORMAND, K. JAFFRE	OPSCC
15:50	Charge kinetic effect and electrostriction in polyurethane	G. DIGUET, K. YUSE, Y. TANAKA, H. MIYAKE, T. TAKAGI, J.-Y. CAVAILLE	TEmpuRA
16:10	Coffee break		

Session 2

B. NORMAND (INSA-Lyon), M. OHTA (TU), Y. WATANABE(TU)

<i>Time</i>	<i>Title</i>	<i>Author(s)</i>	<i>Project</i>
16:30	NeuroRobotics	M. HAYASHIBE	
16:50	Investigation of the effect of surface roughness on human stiffness feeling	S. KANG, T. OKUYAMA, C. THIEULIN, H. ZAHOUANI, C. PAILLER-MATTEI, M. TANAKA	
17:10	Advanced scintillating fibres and Cerenkov fibres for new hadron and jet calorimeters for future colliders	K. LEBBOU, A. YOSHIKAWA, G. BOULON	INTELUM

<i>Time</i>	<i>Title</i>	<i>Author(s)</i>	<i>Project</i>
17:30	Transition of Solid-phase Dynamic Alloying Behavior of Powder Particles under Repetitive Tangential Force	S. TAKEDA, H. MIKI, J. FONTAINE, M. GUIBERT, H. TAKEISHI, T. TAKAGI	COSMIC
17:50	In-flight behavior of polymeric particle during Cold-spray process	C. A. BERNARD, H. TAKANA, G. DIGUET, K. RAVI, O. LAME, K. OGAWA, J.-Y. CAVAILLE	PolymColdSprayCoat
18:10	Potential of double network gel for low friction system	K. KANDA, L. JAY, H. ZAHOUANI, K. ADACHI	TriArtiJoints
18:30	Opportunity of student exchange via ELyTSchool and Strategy of Université de Lyon in Japan	V. FRIDRICI A. FAVE J.-Y. CAVAILLE	
18:50	End of session		

- 19:00 Dinner
- 20:30 Group sessions, Free Discussions

Monday, March 11th

• 7:00 Breakfast

Session 3			
C. MINFRAY (ECL), M. KUBO(TU)			
<i>Time</i>	<i>Title</i>	<i>Author(s)</i>	<i>Project</i>
8:40	New electron microscopy techniques for ceramic materials characterization	L. JOLY-POTTUZ, I. ISSA, A. KRAWCZYNSKA, T. PLOCINSKI, D. STAUFFER, S. LE FLOCH, D. MACHON, V. GARNIER, J. AMODEO, T. EPICIER, K. MASENELLI-VARLOT	
9:00	Quantitative measurement of interfacial heat and mass transfer using high-speed phase-shifting interferometer	Y. KANDA, J. OKAJIMA, A. KOMIYA	
9:20	Tribological characterization of natural bones and bone substitutes for simulating bone drilling in dry conditions	Y. MURAMOTO, V. FRIDRICI, P. KAPSA, G. BOUVARD, M. OHTA	BoneDrill
9:40	Polymer-Metal-Fiber Adhesion Delamination Control (POMADE) by EB-Irradiation	Y. NISHI, H. T. UCHIDA, M. KANDA, M. C. FAUDREE, K. YUSE, D. GUYOMAR, M. SALVIA, J.-Y. CAVAILLE	POMADE & COSMIC

<i>Time</i>	<i>Title</i>	<i>Author(s)</i>	<i>Project</i>
10:00	Magneto Rheological Elastomers and energy harvesting	G. DIGUET, G. SEBALD, M. NAKANO, M. LALLART, J.-Y. CAVAILLE	MARECO
10:20	Coffee break		

Session 4			
P. GUY (INSA-Lyon), T. TOKUMASU (TU)			
<i>Time</i>	<i>Title</i>	<i>Author(s)</i>	<i>Project</i>
10:40	Possibilities of the Gleeble machine at MATEIS laboratory	F. MERCIER	
11:00	Advancement of acoustic emission inspection using system invariant analysis technology	T. SOMA, T. TAKAGI, T. UCHIMOTO, S. CAI	
11:20	Future prospects in the MISTRAL (Miniature-Scale Energy Generation by Magnetic Shape Memory Alloys) project	H. MIKI, M. KOHL, M. LALLART, L. YAN	MISTRAL
11:40	Polymer-Metal-Fiber Adhesions DElamination control	L. OLLIVIER-LAMARQUE, N. MARY, T. UCHIMOTO, S. LIVI, S. YUAN, S. MARCELIN, B. TER-OVANESSIONIAN, B. NORMAND	POMADE
12:00	Effect of wettability of carbon fiber on interfacial shear stress on PP/PA polymer blend	H. KOSUKEGAWA, F. DALMAS, T. TAKAGI, J.-Y. CAVAILLE	DESIRE
12:20	Lunch		

Session 5 J.-Y. CAVAILLE (INSA-Lyon), A. CHIBA (TU)			
Time	Title	Author(s)	Project
14:00	INVITED 2 : Double Keynote Team Science and Interdisciplinary Research in Lyon Collaborative Decision Making in a Visualized, Data Driven Environment	K. LUND J. MILLER	
14:50	Study on composite materials in NARITA laboratory	F. NARITA, H. KURITA	
15:10	Piping system, risk management based on wall thinning monitoring and prediction	T. TAKAGI, P. GUY	PYRAMID
15:30	Recent advances in PYRAMID project : EMAT experimental results for corrosion characterization	P. GUY, B. NORMAND, H. NAKAMOTO, T. TAKAGI, D. MALLICK	PYRAMID
15:50	Advanced simulation tools for nondestructive assessment of corrosion affecting steel pipes	P. CALMON, C. REBOUD, E. DEMALDENT	PYRAMID
16:10	Coffee break		

Session 6			
M.-C. BAIETTO (INSA-Lyon), K. OGAWA (TU)			
<i>Time</i>	<i>Title</i>	<i>Author(s)</i>	<i>Project</i>
16:30	Molecular Simulation Analysis for Adhesion Mechanisms Involved in Polyethylene Processed by Cold Spray	Y. ISHIZAWA, R. MIURA	
16:50	Transonic buffet phenomenon by optimized extraction of transient structure based on physical sensitivity	A. YAKENO	
17:10	A new device based on a unique 6-axis force sensor for environment-controlled tribological and mechanical experiments	J. FONTAINE, M. GUIBERT, J. GALIPAUD, T. LE MOGNE, T. DURAND	
17:30	Modelisation and simulation of nanoscale phenomena	T. TOKUMASU, P. CHANTRENNE	CarboEDiffSim & SilicaGelSim
17:50	Robust Shape optimization under mechanical stability criteria	K. SHIMOYAMA, P. MOHANASUNDARAM, S. BESSET, F. GILLOT	MuORode
18:10	Computational fluid dynamics for perfusion MRI simulation	M. DECROOCQ, M. OHTA, C. FRINDEL, G. LAVOUE	
18:30	End of session		

- 19:00 Dinner
- 20:30 Group sessions, Free Discussions

Tuesday, March 12th

• 7:00 Breakfast

Session 7			
C. REBOUD(CEA), T. TAKAGI(TU)			
Time	Title	Author(s)	Project
8:30	The Eddy Current Magnetic Signature (EC-MS) non-destructive micro-magnetic technique - Simulation	T. MATSUMOTO, B. DUCARNE, T. UCHIMOTO, B. GUPTA, T. TAKAGI, G. SEBALD	BENTO
8:50	On the potential of materials with a high elastic limit and moderate plasticity for dental implants	A. LIENS, B. TER OVANESSIAN, H. KATO, D. FABREGUE, H. REVERON, N. COURTOIS, J. CHEVALIER	
9:10	Understanding Creep Phenomenon in High Chromium Steel Samples: Characterisation and Modelling	B. GUPTA, B. DUCARNE, T. UCHIMOTO, G. SEBALD, T. TAKAGI	BENTO
9:30	Low and ultralow friction of microcrystalline diamonds films towards smart and tribo-resistant coatings	H. MIKI, M. BELIN	IofDIAMS
9:50	Coffee break		

Session 8			
P. CHANTRENNE (INSA-Lyon), T. SHOJI (TU)			
<i>Time</i>	<i>Title</i>	<i>Author(s)</i>	<i>Project</i>
10:10	Innovative Surface Treatments by Peening	D. NELIAS, T. CHAISE	
10:30	Elaboration and characterization of new Titanium alloys for biomedical applications	M. LAURENÇON, D. FABREGUE, A. CHIBA	
10:50	Development of fluoropolymer coating using Cold-spray	W. A. LOCK SULEN, K. RAVI, C. A. BERNARD, N. MARY, Y. ICHIKAWA, K. OGAWA	PolymColdSprayCoat
11:10	Influence of the C composition on properties of Co based alloys	S. AOTA, A. CHIBA, E. MAIRE, D. FABREGUE, K. YAMANAKA	DECCOBABA
11:30	Concluding remarks		

- 12:00 Lunch
- 13:30 Leaving hotel for sake brewery by chartered bus
- 17:00 Arriving at Sendai station

List of Poster Presentations

Poster number	Title	Authors
1	Engineering Science Lyon Tohoku Joint Laboratory: Materials Under Extreme Conditions	
2	Bilateral Collaborations Between France and Japan to Encourage the Diffusion of Knowledge and Know-How by Increasing the Opportunities of Co-Working	
3	On the Potential of Materials with a High Elastic Limit and Moderate Plasticity for Dental Implants	A. Liens, H. Reveron, D. Fabrègue, N. Courtois, J. Chevalier, H. Kato, T. Wada
4	Advanced Scintillating Fibres and Cerenkov Fibres for New Hadron and Jet Calorimeters for Future Colliders (European Project, Intelum RISE2020. International and Intersectoral Mobility)	K. Lebbou, A. Yoshikawa
5	Project BONEDRILL: Development and Friction Characterization of Biomodels of Bones	Y. Muramoto, V. Fridrici, P. Kapsa, G. Bouvard, M. Ohta
6	Molecular Simulation Analysis for Advanced Polymer Materials	N. Hatakeyama, Y. Ishizawa, A. Miyamoto, R. Miyura, E. Sato, A. Suzuki, C. Bernard, J.-Y. Cavaille, G. Diguët, N. Mary, K. Ogawa, K. Ravi, G. Sebald
7	Project ELyT Global: M12-LASMAT Nd3+/Yb3+ Rare Earth Ions-Doped Lu2O3 Transparent Laser Ceramics by Spark Plasma Sintering (SPS) Method Comparison with Single Crystals	G. Alombert-Goget, Y. Guyot, M. Guzik, G. Tocci, S. Kurosawa, J. Pejchal, Y. Yokota, A. Ito
8	Evaluation of EMB Built CCM Alloy and Raw Material Powder Using X-Ray CT	S. Aota, A. Chiba, K. Yamakata, N. Sasaki, Y. Koizummi, D. Fabrègue, E. Maire
9	Project LOFDIAMS: Characterization of Low-Friction Diamond Coatings thank to the Relaxation Tribometer Technique, On The Way to Ultra-Low Friction	H. Miki, M. Belin, T. Takagi
10	Superlubricity of Hydrogen-Free Carbon with Oleic Acid Role of Graphene Oxide Termination	M.I. de Barros Bouchet, J.M. Martin, T. Tsuruda, S. Bai, Y. Higuchi, N. Ozawa, M. Kubo, J. Avila, M.C. Asensio
11	Interactions Between Grains - Better Understanding the Sintering Process and the Grans Evolution	L. Joly-Pottuz, M. Kubo
12	Mechanical Energy Harvesting	G. Diguët, G. Sebald, M. Nakano, M. Lallart, J.Y. Cavaille
13	Resilient Polymeric Cold-Spray Coating	K. Ogawa, O. Lame, C. Bernard, J.Y. Cavaille, T. Deplancke, N. Hatakeyama, R. Miura, A. Miyamoto, K. Ravi
14	Numerical Modeling of Liquid Metal Dealloying	P.A. Geslin, T. Suga, T. Wada, H. Kato
15	Microstructure Characterization of Microporous FECD Produced by Liquid Metal Dealloying	M. Mokhtari, C. Le Bourlot, E. Maire, J. Duchet-Rumeau, T. Wada, H. Kato
16	Projet BENTO: Micromagnetic Modeling and Experimental Validation for Advanced Eddy Current Testing: Understanding Creep	B.Gupta, B. Ducharne, T. Uchimoto, G. Sebald, T. Miyazaki, T. Takagi
17	Piping sYstem, Risk management based on wAll thinning Monltoring and prediction -PYRAMID-	T. TAKAGI, P. GUY, Y. WATANABE, H. ABE, S. EBARA, T. UCHIMOTO, T. AOKI, F. KOJIMA, M. HASHIMOTO, R. URAYAMA, H. SUN, T. MONNIER, J. ANTONI, B. NORMAND, N. MARY, R. MORITA, S. WATANABE, A. IWASAKI, H. NAKAMOTO , C. REBOUD, P. CALMON, E. DEMALDENT, V. BARONIAN, X. ARTUSI, S. CHATILLON, A. LHEMERY

List of Poster Presentations

Poster number	Title	Authors
18	Coupled computing of cryogenic fine solid particle production and its impingement with deformable behavior	N. Asanuma, J. Ishimoto, N. Ochiai
19	Direct numerical simulation of flows over a low-pressure turbine blade	Y. Abe
20	Measurement of protein mass flux through porous membrane	R. Watanabe, S. Moriya, S. Livi, A. Komiya
21	Design and evaluation of function and reliability of materials	K. Suzuki and H. Miura
22	Design optimization of brake systems under vibroacoustic criteria	P. Mohanasundaram, F. Gillot, S. Besse, K. Shimoyama
23	Role of surface finishing to prevent SCC initiation in nuclear plant application	K. Jaffré, B. Normand, B. Ter-Ovanessian, N. Mary, Y. Watanabe, H. Abe
24	Cold spray of Zn/Al coating for anticorrosion application	E. Laspuskina, S. Yuan, S. Marcelin, N. Mary, K. Ogawa, B. Normand
25	Improvement of pitting fatigue strength for gear tooth including a Tribological perspective	Y. Mizutani, S. Toida, R. Sato, R. Hirakawa, F. Tsuchida, M. Kikuchi, K. Kobayashi, S. Yoshida, Y. Tamura, K. Matsumoto
26	POMADE Project: POLymer Metal fiber Adhesions DElamination control	L. Ollivier-Lamarque, T. Uchimoto, N. Mary, S. Livi, S. Marcelin, B. Normand, B. Ter-Ovanessian, S. Yuan
27	Laboratoire Mateis - Matériaux : Ingénierie et Science Materials Engineering and Science CNRS UMR 5510 - Département INSIS (principal) et INC (secondaire)	
28	LTDS - Laboratoire de Tribologie et Dynamique des Systèmes UMR 5513 -	
29	LVA - Laboratoire Vibrations Acoustique	
30	ILM - institut Lumière Matière	
31	LGEF - Laboratoire de Genie Electrique et Ferroélectricité - Univ Lyon, INSA Lyon, LGEF, EA682, F-69621, Villeurbanne, France	
32	LaMCoS - Contact and Structural Mechanics Laboratory - UMR CNRS 5259 INSA de Lyon	