

## The 4th LyC Symposium:

### AFI-2021 IFS Lyon Center Collaborative Research Forum

2021年10月27日(水)～28日(木)、第18回流動ダイナミクスに関する国際会議(ICFD2021)のオーガナイズドセッション22として、また、流体科学研究所公募共同研究成果報告会(AFI-2021)のセッションとして、The 4th LyC Symposium: AFI-2021 IFS Lyon Center Collaborative Research Forumを開催しました。昨年に引き続きCOVID-19の感染拡大の影響によりオンラインでの開催となりましたが、51名の研究者および学生が参加し、流体科学研究所リヨンセンター公募共同研究で実施している研究を中心に14件の発表が行われ、活発な議論が繰り広げられました。



#### **The 18th International Conference on Flow Dynamics (ICFD2021)**

#### **OS22: AFI-2021 IFS Lyon Center Collaborative Research Forum**

**October 27th and 28th, 2021      Online: Microsoft Teams**

#### **Program**

##### Wednesday, October 27th, 2021

<OS22-1/23-3> 2:45-3:00 PM (JST) / 7:45-8:00 (CEST) \* Presented in “OS23: JSPS Core to Core program workshop”

“Local Stabilization Dynamics of a Methane/ammonia Non-premixed Jet Flame Up to Ltoff”

Sophie Colson (Tohoku University, Japan), Manuel Kuhni (Université de Lyon/CNRS/ INSA Lyon/ Université Claude Bernard Lyon1, France), Akihiro Hayakawa, Hideaki Kobayashi (Tohoku University, Japan), Cedric Galizzi, Dany Escudie (Université de Lyon/ CNRS/ INSA Lyon/ Université Claude Bernard Lyon1, France)

<OS22: AFI-2021 IFS Lyon Center Collaborative Research Forum>

Chair: Lucile Joly-Pottuz, Tetsuya Uchimoto

<OS22-2> 5:10-5:30 PM (JST) / 10:10-10:30 AM (CEST)

“Microstructure and Mechanical Properties of An Al–TiC Metal Matrix Composite Obtained by Reactive Synthesis”

Hiroki Kurita, Sho Takeda (Tohoku University, Japan), Olivier Dezellus (Université Claude Bernard Lyon1, France), Tetsuya Uchimoto, Fumio Narita (Tohoku University, Japan)

<OS22-3> 5:30-5:50 PM (JST) / 10:30-10:50 AM (CSET)

“Effect of Flow-Focusing Channel Geometry on Field-Assisted Alignment of Cellulose Nanofibrils”

Hidemasa Takana, Satoru Fukumori (Tohoku University, Japan)

<OS22-4> 5:50-6:10 PM (JST) / 10:50-11:10 AM (CSET)

“Methodology to Detect Water Uptake in Polymer Materials Using Non-Contact Capacitor Sensor”

Lucas Ollivier-Lamarque (Tohoku University, Japan/ CNRS/ Université de Lyon/ INSA Lyon, France), Tetsuya Uchimoto (Tohoku University, Japan/ CNRS/ Université de Lyon, France), Nicolas Mary (CNRS/ Université de Lyon/ INSA Lyon, France/ Tohoku University, Japan), Sabrina Marcelin, Sébastien Livi (CNRS/ INSA Lyon, France)

<OS22-5> 6:10-6:30 PM (JST) / 11:10-11:30 AM (CSET)

“MAGIC: Magnetic AGing in Ferromagnetic”

Benjamin Ducharne (CNRS/ Université de Lyon, France/ Tohoku University, Japan), Laurent Model, Marie-Ange Raulet, Rania Saoudi (Université de Lyon, France), Tetsuya Uchimoto (Tohoku University, Japan)

Thursday, October 28th, 2021

Chair: Jean-Yves Cavaille, Hidemasa Takana

<OS22-6> 3:30-3:50 PM (JST) / 8:30-8:50 AM (CSET)

“Heusler Alloy Based Heat Engine with Pyroelectric Energy Conversion”

Mickaël Lallart (Université de Lyon/ INSA Lyon, France), Hiroyuki Miki (Tohoku University, Japan), Linjuan Yan (Université de Lyon/ INSA Lyon, France), Gaël Sebald, Gildas Diguët (Université de Lyon, France/ Tohoku University, Japan), Makoto Ohtsuka (Tohoku University, Japan), Manfred Kohl (Karlsruhe Institute of Technology, Germany)

<OS22-7> 3:50-4:10 PM (JST) / 8:50-9:10 AM (CSET)

“In-Flight Thermal Gradient of Polymer Particles During Cold Spray Process”

Chrystelle Bernard (Tohoku University, Japan/ CNRS/ Université de Lyon, France), Hidemasa Takana, Gildas Diguët (Tohoku University, Japan), Olivier Lame (Université de Lyon, France), Jean-Yves Cavaille (CNRS/ Université de Lyon, France/ Tohoku University, Japan), Kazuhiro Ogawa (Tohoku University, Japan)

<OS22-8> 4:10-4:30 PM (JST) / 9:10-9:30 AM (CSET)

“Multiscale Simulation of Carbon Electromigration in Iron”

Kairi Kita, Takuya Mabuchi (Tohoku University, Japan), Sofia Molina-Montoya, Christophe Adessi, Patrice Chantrenne (Université de Lyon, France), Takashi Tokumasu (Tohoku University, Japan)

<OS22-9> 4:30-4:50 PM (JST) / 9:30-9:50 AM (CSET)

“Experimental Evaluation of the Relationship between Pore Patterning and Protein Hindered Diffusion”

Atsuki Komiya, Ruiyao Zhu (Tohoku University, Japan), Juan F. Torres (Australian National University, Australia), Yuki Kanda (Tohoku University, Japan), Sébastien Livi (Université de Lyon, France)

*Chair: Hiroshi Koibuchi, Aiko Yakeno*

<OS22-10> 5:10-5:30 PM (JST) / 10:10-10:30 AM (CSET)

“Stability and Transition to Turbulence of Taylor Vortex in a Gap between Rotating Two Cones”

Takahiro Adachi, Widiast Toshiharu, Kana Akinaga (Akita University, Japan), Atsuki Komiya (Tohoku University, Japan), Daniel Henry, Valery Botton (INSA Lyon, France)

<OS22-11> 5:30-5:50 PM (JST) / 10:30-10:50 AM (CSET)

“Monte Carlo Studies on 3D Skyrmion Stability and Shape Deformation under Uniaxial Stress”

Hiroshi Koibuchi, Satoshi Hongo (National Institute of Technology, Sendai College, Japan), Fumitake Kato (National Institute of Technology, Ibaraki College, Japan), Sahbi El Hog (Université de Monastir, Tunisia), Gildas Diguët, Tetsuya Uchimoto (Tohoku University, Japan/ CNRS/ Université de Lyon, France), Hung T. Diep (CY Cergy Paris University, France)

<OS22-12> 5:50-6:10 PM (JST) / 10:50-11:10 AM (CSET)

“Mode Decomposition Method for Extracting Characteristic Structures Related to the Subsonic Jet Noise Generation”

Shota Morita, Aiko Yakeno (Tohoku University, Japan), Christophe Bogey (Université de Lyon/ Ecole Centrale de Lyon/ INSA Lyon/ Université Claude Bernard Lyon1/ CNRS, France), Shigeru Obayashi (Tohoku University, Japan)

<OS22-13> 6:10-6:30 PM (JST) / 11:10-11:30 AM (CSET)

“Coupled Computing of Fluid-Structure Interaction Problems for Multiphase Energy Systems”

Jun Ishimoto (Tohoku University, Japan), Thomas Elguedj (INSA Lyon, France)

<OS22-14> 6:30-6:50 PM (JST) / 11:30-11:50 AM (CSET)

“Modelling Self-Organization by Oxygen with Reaction-Diffusion Models”

Olivier Cochet-Escartin, Mete Demircigil (CNRS/ Université de Lyon, France), Satomi Hirose (Tohoku University, Japan), Vincent Calvez (CNRS/ Université de Lyon, France), Kenichi Funamoto (Tohoku University, Japan), Christophe Anjard, Jean-Paul Rieu (CNRS/ Université de Lyon, France)