



TSUKUBA GLOBAL SCIENCE WEEK 2021
Colloid in Civil and Environmental Engineering
DATE: SEPTEMBER 9, 2021

Welcome to the on-line session on the session of
Colloid in Civil and Environmental Engineering,
Joint Session between R-Unit Bio-resource colloid eng.
(Univ. of Tsukuba) and Mudnet (Tech. Univ. of Delft).

Session Name: "Colloid in Civil and Environmental Engineering".

Discussion in the research unit of Bio-resource colloid engineering has confirmed the validity of colloid and interface science for interdisciplinary discussion. That is, colloid science can be an important basis for the research development in water, soil, food, pulp and paper, waste and resources management. In order to make full use of the results along the mission for next generation such as realization of carbon neutral society, SDGs, counter measure against microplastic pollution, the way of thinking in the field of civil and environmental engineering is considered to be practically useful. With this conclusion, we have decided to collaborate to organize joint session with group of civil engineering in Delft University of Technology that is recently active as MUDNET in Europe. This opportunity will lead to construct a new global forum to enforce the knowledge of colloid engineering for the next generation.

“コロイドと土木環境工学”

リサーチユニット生物資源コロイド工学では、水環境、土壌、食品、紙パルプ、廃棄物資源管理などの生物資源科学の諸分野に共通する基礎にコロイド界面現象の理解があり、その有効性を様々な視点から確認してきました。こうした成果を、脱炭素社会の形成、SDGs、マイクロプラスチック汚染対策など次世代の政策的ミッションに転化していく上では、土木工学的な考え方を組み込んで強化する展開が有効と考えられます。そこで、TGSW2021では、土木環境工学を中心に活躍される学内の研究者と協力し、オランダのデルフト工科大学の水工グループにヨーロッパを中心に組織されているMUDNETとオンラインのジョイントセッションを開催し、学術、並びにエンジニアリング上今後必要となる事項をグローバルな視点から討議し整理する機会を設けることにしました。

Session Web Page: <https://tgsw.tsukuba.ac.jp/update/session/987/>

Session Organizer:

Yasuhisa Adachi

(Professor, Faculty of Life & Environmental Sciences, University of Tsukuba)

Co-organizer:

Takashi Matsusima

(Professor, Faculty of Engineering, Information and Systems, University of Tsukuba)

Motoyoshi Kobayashi

(Associate Professor, Faculty of Life & Environmental Sciences, University of Tsukuba)

Claire Chassagne

(Associate professor, Faculty of Civil Engineering and Geosciences (CiTG) Department of Hydraulic Engineering, TU Delft, Nederland)

Session: September 9, 2021

Time: 13:50-18:40

Program: “Colloid in Civil and Environmental Engineering”.

9th September 2021	Free Theme No.4-4 (Online)	Colloid in Civil and Environmental Engineering
13:50-14:00	Opening Remarks Yasuhisa Adachi Organizer, University of Tsukuba	Chair and Time Keeper Motoyoshi Kobayashi Co-Organizer, University of Tsukuba
Invited Lecture		
14:00-14:30	Claire Chassagne , TU Delft (Nederland) “Using colloid engineering to the benefit of next generations: lessons learnt and perspective”	
14:30-14:50	Takashi Matsushima , University of Tsukuba “Geomechanical simulation from grain scale to river basin scale”	
14:50-15:00	Break	
15:00-15:30	Alessandro Tarantino , University of Strathclyde, Glasgow (Scotland, UK) “Analysis of elementary mechanisms of clay particle interactions to gain insight into compression behaviour of clay”	
15:30-15:50	Azizul Hakim , University of Chittagong (Bangladesh) “Strength of microplastic aggregates: effects of ionic valence”	
15:50-16:00	Break	
16:00-16:30	Seyed Ali Ghoreishian Amiri , Norwegian University of Science and Technology (Norway) “Constitutive modelling of clay & potential links to colloid science”	
16:30-16:50	Yuko Hatano , University of Tsukuba “Mathematical modeling of radioactive nuclides in Lake Onuma, Mt. Akagi”	
16:50-17:00	Break	



<p>Short Presentations and Online Banquet</p>	<p>Moderator: Takuya Sugimoto University of Tsukuba</p>
<p>17:00-18:30</p>	<p>Short Presentations</p> <p>Atsushi Yamaguchi, Utsunomiya University “Soil Erodibility by Concentrated flow and Shear Strength of a Shimajiri Maaji Soil with a Cationic Polyelectrolyte”</p> <p>Feng Lili, North China University of Water Resources and Electric Power (China) “Adsorption and flocculation kinetics of colloidal particles with polyelectrolyte at the IEPs”</p> <p>Yasuhito Hayashi, University of Tsukuba (Shigeki Wada Lab.) “A size restriction of marine flocs by the fluid shear stress”</p> <p>Yoko Kawashima, Public Works Research Institute “Colloidal behavior of asphalt”</p> <p>Xiaoyu Jiang, University of Tsukuba (Takashi Matsushima Lab.) “Structural characteristics of ordered clusters in packs of ellipses”</p> <p>Falzul Habib Chowdhury, University of Tsukuba (Takashi Matsushima Lab.) “Numerical Modeling of Failure and Flow of Natural Slope”</p> <hr/> <p>Online Mixer</p>
<p>18:30-</p>	<p>Concluding Remarks Yasuhisa Adachi, Organizer, University of Tsukuba</p>



Claire Chassagne

Assistant professor
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Department of Hydraulic Engineering
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Profile

<https://www.tudelft.nl/en/ceg/about-faculty/departments/hydraulic-engineering/sections/environmental-fluid-mechanics/staff/dr-ir-c-claire-chassagne>



Takashi Matsushima

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http://www.kz.tsukuba.ac.jp/~tmatsu/index_eng.html



Alessandro Tarantino

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Seyed Ali Ghoreishian Amiri



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Azizul Hakim



Associate Professor
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Profile

https://cu.ac.bd/public_profile/index.php?ein=5170