

URA International Seminar Okayama University

A talk series initiated in 2014



Courtesy by Bernard CHENEVIER - November - 2022



Courtesy by Alain WAGNER - November - 2022



Objectives:

Promote International research and collaborations

A major mission of the **URA division** (<http://ura.okayama-u.ac.jp/english/>)

Invite outstanding scientists – Any field

When visiting partners at Okayama University

Give a talk to a large diversity audience :

➔ from Master to Confirmed scientists

In 2022: 15th and 16th Talks by Dr A. Wagner

15th URA International Seminar

DATE: NOVEMBER 10th 2022
TIME: 15 : 00 - 16:30 (TBC)
VENUE: **SHIKATA** Campus
講堂(Kodo @shikata kaikan) –
Kodo Auditorium

Université
de Strasbourg



Antibody-based drug delivery systems

Dr. Alain Wagner,
Strasbourg University and CNRS – France

16th URA International Seminar

DATE: NOVEMBER 14th -2022
TIME: 15 : 00 - 16:30
VENUE: **TSUSHIMA** –
岡山大学創立五十周年記念館
50th Anniversary Hall- 2nd Fl.

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Interfacing chemistry and microfluidics: Toward Single Cell Functional Biology-

Dr. Alain Wagner,
Strasbourg University and CNRS – France



Previously.....

URA International Research Seminars
2014 "Non-stoichiometric oxides as a platform for applied and academic research"
—酸素イオン導伝性をもつ金属酸化物の基礎的研究と応用研究—



Guest Speaker
Professor Dr. Werner Paulus

Institut Charles Gerhardt,
University of Montpellier2, FRANCE



When **Monday Dec. 21, 2015**
From 10:00 (about 1 hour)

Where **Faculty of Science**
Big Conference Room
理学部棟 1階 大会議室
(Open to all faculty and students)

Speaker

Professor John S. Tse

Department of Physics and Engineering Physics
University of Saskatchewan, Canada

Professor's TSE research focuses on the rationalization of the fundamental principles governing the structure, stability and thermodynamics of materials and the prediction of material behaviour. The objective is to provide the guiding principles for the rational design of novel functional materials. To achieve this



14th URA International Seminar

DATE MARCH 28th, 2019; TIME 17:30- 19:00
VENUE AT JUNKO FUKUTAKE HALL (J HALL) AT OKAYAMA UNIV. SHIKATA-CAMPUS
[HTTP://J-HALL.MED.OKAYAMA-U.AC.JP](http://j-hall.med.okayama-u.ac.jp)

Neural Mechanisms of Social Bonding and Innovative Approach of Autism understanding

Professor Larry YOUNG, Emory University (USA) and Tsukuba University (Japan)



Okayama University 4th URA International Research Seminar
Speaker
Dr. Stavros Nicolopoulos
NanoMEGAS SPRL, Brussels-Belgium, Director NanoMEGAS

When: Mon. Nov 16th 2015 15:00~16:00 Where: Faculty of Engineering 大会議室

"Advanced TEM electron diffraction studies: from texture mapping to complex structure determination of pharmaceuticals and proteins"

Abstract: Transmission Electron Microscopy (TEM) has been greatly developed over the last 30 years by relying on applications focusing mainly on high resolution imaging; in the last decade Cs corrected TEMs made it possible to achieve sub-nanometer resolution. By contrast, TEM applications based on diffraction data did not grow at a similar pace.

9th URA International Seminar

DATE NOVEMBER 17th 2017
TIME 14:30-16:00
VENUE AT 50TH ANNIVERSARY HALL CONFERENCE ROOM (2ND FLOOR)

PROF. DR. MIRIJAM ZOBEL

UNIVERSITY of BAYREUTH Department of Chemistry,



Professor Zobel's research is focused on the mutual dependence of short-range order and physical properties of nanomaterials. This includes the investigation of nanoparticle formation in solution, crystallization processes, nanoparticle-solvent interfaces and structural changes during catalysis. In order to achieve spectroscopic ti

Professor Zobel
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13th URA International Seminar

DATE OCTOBER 31 2018
TIME 14:00 - 16:30
VENUE SHIKATA -- MASCUT HALL (MUSCAT CUBE 3F) [HTTPS://MUSCATSM.WIXSITE.COM/MUSCATCUBE](https://muscatsm.wixsite.com/muscatcube)

LUPUS: a challenging world-wide disease

II - Autophagy processes,

a new target to treat autoinflammatory disease

Professor Sylviane Muller, Strasbourg University and CNRS - France



10th URA International Seminar

Date: Friday 5th January 2018
Time: 14:30-16:30
VENUE: 50th Anniversary Hall Conf



Grenoble
(2nd Floor)

Understanding the beauty of crystal structures: A no frontier review over the ages and Importance of exchanges on the progress of knowledge

URA International Seminar



2023 –

Provisional programme (TBC)



17th : April – Pr. W. SACKS (Sorbonne University) → Shikata - Koudo Khan

Talk supported by the **HESPRI European project**

Topic: **Mathematica – A high-profile, versatile and user-friendly software – Applications to Modelling concerns in the Medical field**



18th : May – Dr. X. BAILLY (ROSCOFF Marine Station -- Sorbonne University)

Talk supported by the **HESPRI European project**

Holistic approaches through a groundbreaking animal-plant symbiosis -- The Green Worms odysseus



19th : June – Pr. W. SACKS (Sorbonne University) → Tsushima Campus

Talk supported by the **HESPRI European project**

Topic: **Mathematica – A high-profile, versatile and user-friendly software – Applications to Modelling concerns in the Humanities and Social I field**



For the moment beingLet's start with **Dr. A Wagner**

16th URA International Seminar Chair: Pr. Koreyoshi IMAMURA – HOST @Okayama University

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TIME: 15 : 00 - 16:30

VENUE: TSUSHIMA –
岡山大学創立五十周年記念館
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Interfacing chemistry and microfluidics:

Toward Single Cell Functional Biology-

Dr. Alain Wagner,
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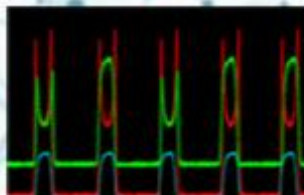
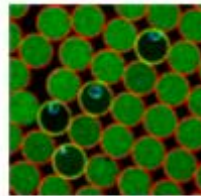


ABSTRACT

The fast development of single cell technologies has made possible detailed investigations of mechanisms that could not be observed from bulk cells samples. For instance, fluorescence-activated cell sorting (FACS) allows the isolation of cell sub-population from heterogeneous samples, on the basis of a selected panel of surface protein expression. More recent transcriptomic-based single cell enabled the simultaneous molecular analysis of hundreds or thousands of cells. It is specifically efficient for the analysis of transcriptome variations allowing the discovery of previously undetectable cell subtypes.

Today the development of advanced generation of technologies opening-up quantification of single cell at their proteome and metabolome level is highly desired. In particular, secreted molecules are main modulators of most adaptive and immunomodulatory processes. However technologies to analyze single cell secretion of large cell populations and to recover rare clones have not yet been reported.

To advance that field of research, we have used a biorthogonal chemistry approach (see 2022 Nobel Prize of Chemistry: Carolyn BERTOZZI) to decorate the inner surface of microfluidic droplets with molecules that can serve as biomarker-specific capture hook. Each droplet is thus transformed into a functional pico-liter size compartment enabling to imprison all protein secreted by the inner cell and capture the proteins at the droplet surface. Those secreted and captured biomarkers are then analyzed via novel Droplet Surface Immunoassay by Relocation (D-SIRe).



Convenient screening of millions of cells as a function of secretion criteria can be performed by using this robust, highly sensitive and versatile technology. It is compatible with primary B-cell, hybridoma, HEK cells and was tailored for the discovery of antibodies against soluble proteins, peptides but most notable against native GPCR. New development focusing of application around exosome secretion and diagnostic applications are currently ongoing.

Co-organized by

[Inquiry]

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Shibukawa - November - 2022



Naoshima and the "Yellow Pumpkin"
November - 2022