



Interface IONICS

International Online Symposium 2022

**08:00-12:00 Tue. 29 March 2022 in Japan (JST)
16:00-20:00 Mon. 28 March 2022 in CA, USA (PDT)
(23:00 28 March – 03:00 29 March 2022 (GMT))**

**Invited Speakers:
Prof. Shyue Ping Ong (UCSD)
Prof. Anton Van der Ven (UCSB)
and more**

Scope:

The "Interface IONICS" project is going on as "Grant-in-Aid for Scientific Research on Innovative Areas" under JSPS for 2019-2023 (Homepage: <https://interface-ionics.jp/en/>). The project involves 24 original PIs and 21 young PIs, and aims at establishing "Interface Ionics" on top of the conventional "solid state ionics" and "electrochemistry". A main application target is all-solid-state battery, but the project focuses on any types of solid state ionics devices.

To promote understanding of the fundamental science of "Interface IONICS", the project organizes annual international (on-line) symposium. In 2022, "solid electrolyte ionics" and "cathodes for higher energy density" are the targets.

**Grant-in-Aid for Scientific Research on Innovative Areas, MEXT, Japan
Science on Interfacial Ion Dynamics for Solid State Ionics Devices (Interface IONICS)
Symposium URL: <https://interface-ionics.jp/event/32/>**



**Organizers: "Interface IONICS" Project,
Dr. Yoshitaka Tateyama (NIMS) & Prof. Naoaki Yabuuchi (Yokohama Nat'l Univ.)
Sponsor: National Institute for Materials Science (NIMS), GREEN**

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Program

▶08:00-08:10(JST) / 16:00-16:10(PDT)

Opening remarks (10 min.): Prof. Yasutoshi Iriyama (Nagoya Univ.)

▶08:10-09:45(JST) / 16:10-17:45(PDT)

Topic A: Solid Electrolyte Ionics

: Chair: Dr. Naoaki Kuwata (NIMS)

Invited Talk A1 (30 min.): Prof. Shyue Ping Ong (UCSD)

"New Insights into Lithium Superionic Conductors and Their Interfaces enabled by Machine Learning"

Invited Talk A2 (20 min.): Prof. Akitoshi Hayashi (Osaka Pref. Univ.)

"Glass electrolyte suitable for interface-formation in all-solid-state batteries"

Invited Talk A3 (20 min.): Prof. Ryo Kobayashi (Nagoya Inst. Tech.)

"MD study on atomistic origin of grain boundary resistivity in solid electrolytes"

Total discussion time in Topic A (25 min.)

▶09:45-10:00(JST) / 17:45-18:00(PDT)

Break (15 min.): Ceremonial Screen Shot

▶10:00-11:35(JST) / 18:00-19:35(PDT)

Topic B: Cathodes for Higher Energy Density

: Chair: Dr. Yoshitaka Tateyama (NIMS)

Invited Talk B1 (30 min.): Prof. Anton Van der Ven (UCSB)

"Phase transitions, cation diffusion and redox mechanisms in layered Na-intercalation compounds and Li-rich electrode materials"

Invited Talk B2 (20 min.): Prof. Masashi Okubo (Waseda Univ.)

"Competition between reversible and irreversible oxygen-redox reactions for high capacity"

Invited Talk B3 (20 min.): Prof. Naoaki Yabuuchi (Yokohama Nat'l Univ.)

"Disordered Li-excess high-capacity electrode materials with multi-electron cationic and anionic redox"

Total discussion time in Topic B (25 min.)

▶11:35-11:45(JST) / 19:35-19:45(PDT)

Closing remarks (10 min.): Dr. Yoshitaka Tateyama (NIMS)