

国際学会 (23rd International Conference on Solid State Ionics) への参加

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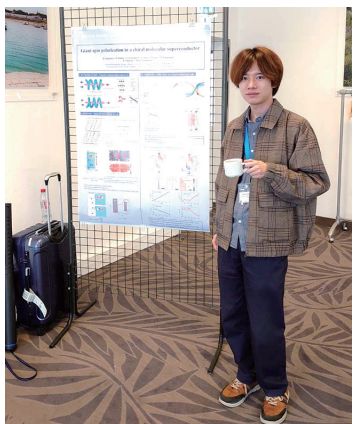
おかもと・けい

愛知教育大学教育学部中等教育教員養成課程を卒業後、2018年4月に総合研究大学院大学物理科学研究科構造分子科学専攻へ入学。小林グループにて、ヒドリドイオン導電体の物質探索およびヒドリド超イオン導電相の低温安定化に取り組んでいる。

2022年7月17日から22日かけて米国ボストンにて開催された国際学会「23rd International Conference on Solid State Ionics」に参加させていただき、ポスター発表をして参りました。私は小林グループにて水素の陰イオンであるヒドリドイオン(H⁻)が酸化物イオン(O²⁻)の骨格構造内に共存した酸水素化物という物質群に着目してH⁻導電体の開発を行なっています。最近、我々は構造相転移に伴って300°C以上の温度域で超イオン導電性を発現するH⁻導電体Ba_{1.75}LiH_{2.7}O_{0.9}の開発に成功しており、この学会ではBa_{1.75}LiH_{2.7}O_{0.9}のLiの一部をNa

置換することによる超イオン導電相の低温安定化について報告いたしました。2019年にコロナ禍が始まって以来、海外での発表ができておらず、この学会が海外で参加できた初めての国際学会となりました。現地へ赴いて発表することで対面での議論を深めることができ、オンラインでの発表以上に人間味を感じる、とても有意義な発表となりました。オンラインで交流できることは多くのメリットがありますが、インターネットを利用したコミュニケーションツールが発展した現在でも僅かな仕草や空気感といった対面で得られる情報が人間同士のコミュニケー

ションにおいて重要であると感じました。今回、質疑の時間に質問することはできませんでしたが、セッション後に海外の研究者に質問することができ、ネイティブの方の英語に苦戦しながらも拙い英語で質問や議論ができたことが少なからず自信につながったように思います。今後もより良い成果報告ができるよう、精進して参ります。最後に、今回の国際学会への参加にあたって、旅費と参加費の御支援賜りました新学術領域研究「ハイドロジェノミクス」の関係者の皆様方にこの場を借りて厚く御礼申し上げます。



ISCOM2022, under corona-free situation

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Ryota Nakajima

I joined Prof. Yamamoto group as a Ph.D. student in April, 2020. My research activity is basically devoted to superconducting spintronics by using chiral molecular conductors.

The 14th International Symposium on Crystalline Organic Metals, Superconductors and Magnets (ISCOM2022) was held in person in Le Pouliguen, France, from

September 25 to 30, 2022. ISCOM is a long-running series of conferences in the field of conducting, magnetic and dielectric molecular crystals, which began in 1995 (Mittelberg ,

Austria) and had been held every two years until 2019 (Tomar, Portugal). The symposium is a forum for comprehensive and interdisciplinary discussion on the most recent

developments in the chemistry, physics, materials science, and technology of crystalline molecular solids.

ISCOM2021 was postponed for a year due to Covid-19 restrictions, then this was held for the first time in three years. This symposium had fewer participants than the previous one. I made a poster presentation entitled “Giant spin polarization in a chiral molecular superconductor”, where spin accumulation emerging in an antiparallel pair created by

CISS effect was discovered with a high polarization rate (see my poster above). I’m convinced that such research will open up new avenues for chiral spintronics.

Face-to-face symposium brings together worldwide senior and young scientists for frank discussions. This conference provided the participants with significant opportunities to exchange information and idea. And I thank SOKENDAI and IMS for their enormous financial support.

By the way, Shinkansen was halted

due to a strong typhoon on the day of departure and I couldn't reach Haneda Airport. I had to change my flight and was not sure if I would be able to arrive there before the day of my presentation. After being stuck at Toyohashi station for more than six hours, I managed to book a new flight for another day and finally made it in time for my presentation session (even though I was two days behind schedule). It could have been worse, but luckily, I avoided “the perfect storm”.

受賞者の声

周 諭来 (総合研究大学院大学 物理科学研究科 機能分子科学専攻 5年一貫制博士課程3年)

In memory of graduation and the Sokendai Prize

I believe a person’s greatness lies in believing in the unseen, seeking the unseen, and creating the unseen. And this is what I hope to do using my life.

In the spring of 2017, packing my personal belongings and also my mother into the little cube car and crossing the Kanmon Straits, I headed for Aichi from the countryside of Kyushu to do my Ph.D. in IMS. It was just like the scene at the beginning of the Ghibli movie Totoro which I now feel nostalgic to remember that day.

In IMS as a Ph.D. student, I spent five and a half years observing and controlling ultrafast interaction between two single Rydberg atoms. I wrote my thesis on this topic and am grateful that the work was honored with the SOKENDAI prize. You may say that it doesn’t worth taking such a long time to do this research, but I think the study deserves it, and I like my work very much.

Actually, I was not an excellent student from the beginning. I didn’t know much about physics and also the experiment. I always feel very grateful to Ohmori sensei for accepting me as his student. There is nothing good about me from what you can see. But maybe Ohmori sensei has found something invisible that is not too bad inside me.

Currently, I am continuing to work with the apparatus I constructed during my Ph.D. When I designed it, I tried my best to make it a nice machine that could work for the next decades. I think this is one of the ways to show my gratitude to my sensei. At some point, I will leave IMS, and I believe the apparatus will keep on running even after I leave, which is still an unseen future event.

I hope to use some part of my life to catch what is still unseen, just like the catcher in the lab. I also wish to be someone who can find out some unseen brilliant things inside you and also inside me. Sometimes I wonder whether I would choose to go to Ph.D. in IMS if I could go back to 2017. The answer will definitely be yes. I will climb the hill passing through the path where the Sakura starts blooming and knocking on the door of Ohmori sensei, saying hi to him in a small voice.

