

Session sponsor for [Special Symposium: The 50th Anniversary of superfluid Helium 3] in 29th International Conference on Low Temperature Physics, 2022. 8. 18 - 24.

At 29th International Conference on Low Temperature Physics, Sapporo Hybrid format, 2022. 8. 18 – 24, a special symposium "The 50th Anniversary of superfluid Helium 3" was sponsored by Institute for Materials Research (IMR), Tohoku University. In this special symposium, Physics of Superfluid Helium 3 -Past, Present, and Future- was discussed with four invited talks. Two Nobel-prize laureates, Profs. Lee and Leggett delivered a historical story from the discovery.

The 29th International Conference on Low Temperature Physics (LT29) is a major meeting of the C5 Committee of the International Union of Pure and Applied Physics (IUPAP). It was held at the Sapporo Convention Center for 7 days from August 18th (Thursday) to 24th (Wednesday), 2022. Due to the pandemic caused by the new coronavirus COVID-19, the originally planned August 2020 event was not possible, and two years later it was held in a hybrid format. It was managed to hold the event after taking unprecedented measures such as to prevent infectious diseases, support for on-site as well as remote participation, and visa acquisition assistance for overseas participants. The number of on-site participants reached above 860 including 340 from overseas. In total, more than 1100 participants enjoyed lively scientific discussion.

The conference sessions focus on five sub-fields (1. Quantum Gases, Fluids and Solids, 2. Superconductivity, 3. Magnetism and Quantum Phases, 4. Nanophysics and Quantum Information, 5. Cryogenic Techniques and Device Applications). 2022 marks the 50th anniversary of the discovery of superfluid Helium-3. To celebrate this memorial year, the special symposium was held in LT29. Original logo (Fig. 1) was shown at the top page of LT29 website. Two Nobel laureates gave lectures at the special symposium. In addition to the scientific sessions based on the researchers, public lecture was also held online regarding the two interesting topics about superconductivity and quantum computing.

The superfluid ^3He was discovered in 1972. Superfluid ^3He was the first observed anisotropic superfluid and is still being

actively studied. At LT29, a Special Symposium was held (Fig. 2): Physics of Superfluid Helium 3 -Past, Present, and Future with four invited talks. First, Prof. Bill Halperin, the chair of this session, talked about the significance of this symposium and the situation at Cornell University at the time of the discovery of superfluid ^3He . Two Nobel laureates, Profs. Lee and Leggett, then reported on the experimental and theoretical state of affairs before and after the discovery. Prof. Saunders reported on current and future research on ^3He . Many attendees at the main Hall learned their experiences and interesting physics on ^3He (Fig. 3).

As a session sponsor, IMR logo was shown on the LT29 website and the program booklet. The sponsor's contribution for this special symposium was recognized by the participants who are in the research field of low temperature physics. We are pleased with the success of this special symposium and entire conference programs.

References

[1] <https://www.lt29.jp/>

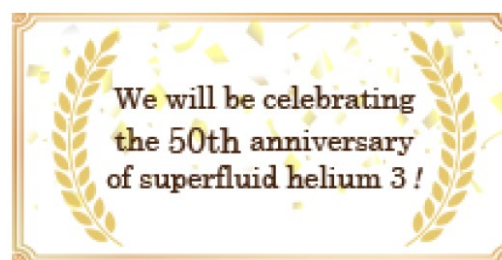


Fig. 1 A Logo for the 50th Anniversary of Superfluid Helium-3.

Special Symposium : The 50th Anniversary of Superfluid Helium 3 (Hall 1)				
Aug. 19 (Fri) (Hall 1)	Physics of Superfluid Helium 3 - Past, Present, and Future Sponsored by IMR Tohoku U.		chairs: William Halperin Keiya Shirahama	
19A-S-01	The Discovery of Superfluid Helium-3 (video message)	David M. Lee	Remote	9:00-9:20
19A-S-02	What makes superfluid 3-He special?	Anthony J. Leggett	Remote	9:20-9:50
19A-S-03	Superfluid ^3He – <i>Nature's Gift to Physics</i>	James A. Sauls	Remote	9:50-10:20
19A-S-04	Superfluid ^3He ; a perspective on future prospects from materials science to fundamental physics.	John Saunders	Onsite	10:20-10:50

Fig. 2 Program of the Special Symposium “The 50th Anniversary of Superfluid Helium 3”.



Fig. 3 A group photo at the main Hall.