

2026

1.14 (wed.)

12:10

12:50

12:10-12:15

◆ Introduction

12:15-12:40

◆ Seminar  
(Presentation)

12:40-12:50

◆ Q&amp;A

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# Three Directions in Statistical Research



## Key Words

**Mathematical Statistics****Industry Collaboration****Collaboration with Pure Mathematics****Statistical Education****Professor Kei HIROSE**

Institute of Mathematics for Industry

Kei Hirose is a statistician from Fukuoka and received his Ph.D. in Functional Mathematics from the Graduate School of Mathematics at Kyushu University in 2011. After serving as an assistant professor at Osaka University, he joined the Institute of Mathematics for Industry at Kyushu University in 2016, where he is currently a professor engaged in research and education in statistics. His expertise lies in multivariate analysis, particularly factor analysis and sparse estimation, with applications to industrial problems such as electricity demand forecasting and materials property prediction. His major publications include *Sparse Estimation Methods for Statistical Modeling* and *The Concept of Statistics* (both are Japanese). He is also involved in research projects on high-dimensional data analysis and predictive modeling supported by JSPS.

I have been working in statistics for many years, especially in the area of mathematical statistics, which is grounded in mathematical theory. In recent years, however, the rapid development of AI has changed the landscape of research. I have come to feel that mathematical statistics alone, unless extremely original, is no longer enough to create new value. Instead, interdisciplinary approaches, new forms of statistical education that make use of AI, and theoretical studies that incorporate deeper mathematics are becoming increasingly important.

With this in mind, my current research follows three main directions.

The first is collaborating with industry to address real-world problems and to study the mathematical questions that arise from them.

The second is fundamental research that involves advanced mathematics, such as algebra.

The third is strengthening statistical education through writing and outreach activities.

Through these three directions, I hope to explore new possibilities for the future of statistics.