



Dear Readers,

Welcome to this year's edition of the SanDAL newsletter!

We're excited to share some fantastic updates and achievements from our team over the past year. Here's what you can look forward to in this issue:

- ❖ New Team Members – Get to know the latest addition to our team and learn about their unique expertise and role in advancing our mission.
- ❖ The Luxembourg-Waseda conference on Modelling and Inference for Complex Data
- ❖ 3rd Summer School – Read about the success of our third summer school, where students and researchers came together to learn, collaborate, and explore new techniques in data analysis and research methodologies.

We hope you enjoy this update and feel inspired by the progress and enthusiasm driving the SanDAL ERA Chair forward. Thank you for being part of our journey!

New Team Members



Gaspard Bernard
Postdoctoral Researcher



Katarzyna Mroz
Intern

Yassine Nachit
Postdoctoral Researcher



Guendalina Palmirotta
Postdoctoral Researcher



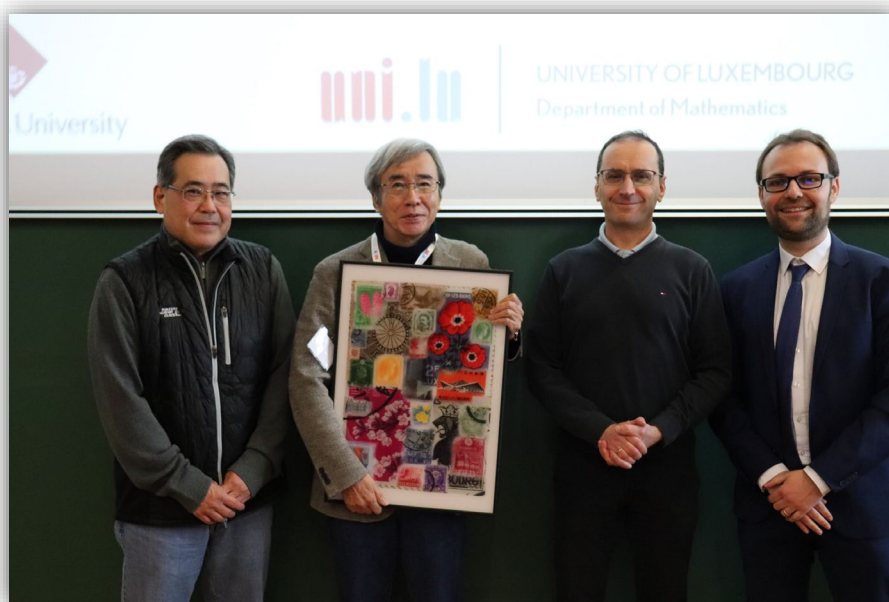
Ujan Gangopadhyay
Postdoctoral Researcher





The Luxembourg-Waseda conference

The Luxembourg-Waseda Conference on **Modeling and Inference for Complex Data** took place from January 23-25 at the University of Luxembourg in a hybrid format. This engaging event attracted around **100 participants**, both online and in person, offering a rich program of diverse methods and tools for handling complex data challenges. The conference featured **22 expert speakers** from the University of Luxembourg, several Japanese universities, Aarhus University, and the European Space Agency.



Sponsored by the “ERA Chair in Mathematical Statistics and Data Science – SanDAL” and research funds from Prof. Masanobu Taniguchi of Waseda University, this was the first conference organized by **Prof. Christophe Ley**, head of the MIDAS (Modeling – Interdisciplinary – Data (Science) – Applied – Statistics) team at the University of Luxembourg’s Department of Mathematics. Prof. Ley’s team includes **Dr. Senthil Murugan**, **Dr. Guendalina Palmirotta**, **Florian Felice**, and **Damian Mingo**. The conference also provided an excellent opportunity to deepen ties between the University of Luxembourg and Japanese institutions, especially with representatives from the Japanese Embassy in Luxembourg and the Nomura Research Institute attending the conference reception.

Following the conference, **Prof. Yannick Baraud**, SanDAL’s ERA Chair holder, traveled to Japan in February 2023 at the invitation of **Prof. Taniguchi**, with the goal of furthering collaborative research efforts between Luxembourg and Japan. The conference and these follow-up visits aim to foster ongoing interdisciplinary and intersectoral research partnerships between the two countries.



3rd SanDAL Summer School

From July 17-19, 2023, **thirteen high school students** from Luxembourg participated in an interactive data science workshop series on the Belval campus. Over three days, they explored data visualization, machine learning, probability, and data analysis through hands-on activities. The event began with an introduction by **Prof. Yannick Baraud**, Professor of Mathematical Statistics and director of the Master of Data Science program. He shared the history and significance of data science, with examples from biology and linguistics.



The students then engaged in **four key workshops**: **Data Visualization** – Students learned to create and interpret infographics and gathered data across campus. **Machine Learning & the Universe** – They explored how machine learning can detect and analyze craters in the universe. **Regression Analysis** – Using data from a fictional pizza chain, students practiced evaluating turnover through regression. **Benford's Law** – They applied Benford's Law to fraud detection. The event concluded with a tour of the University's high-performance computing facilities, where students saw how researchers process large datasets. Coordinated by **Prof. Antonella Perucca**, the workshops were led by postdoctoral and doctoral researchers **Gaspard Bernard, Juntong Chen, Aida Horaniet Ibanez, Ann Kiefer, Sophia Loizidou, Senthil Murugan Nagarajan, and Guendalina Palmirotta**.