Dear Readers,

As we reach the conclusion of the SanDAL ERA Chair project, we're excited to celebrate our team's achievements and share highlights from the past year. This year has marked a successful finale, filled with meaningful milestones and exceptional progress. In this issue, you'll find updates on key accomplishments, insights from our collaborative projects, and a look back at the ICON STARF conference. Here's what you can look forward to in this issue:

❖ **The International Conference on Statistics and Related Fields (ICON STARF):** A successful event that brought together leading statisticians to share cutting-edge work in honor of Vladimir Koltchinskii.

❖ **Three Prestigious Grants in Statistics Awarded:** Our team has secured major funding to advance statistical research, a testament to SanDAL's impact and legacy.

❖ **Insights from the Workshop on "Time series and directional statistics" – TIMEDATA**

❖ **Techie Night - opportunity to connect with Tech companies in Luxembourg!**

We hope this final update serves as a reminder of the enthusiasm, innovation, and impact that have defined the SanDAL ERA Chair. Thank you for being a valued part of our journey!

Three Prestigious Grants in Statistics Awarded

Prof. Christophe Ley received the **IAS Distinguished Grant** for his project "Statistical Approaches to Complex Time-Dependent Data Problems" (**TIMEDATA**). This grant allows him to host Prof. Masanobu Taniguchi from Japan, a leading expert in time series data analysis, for a three-month collaboration. Co-PIs on the project include Prof. Gautam Tripathi from Economics and Management and Prof. Diane Pierret from Finance, highlighting the project's interdisciplinary focus.

SanDAL's postdoctoral researcher **Guenda Palmirotta** has been awarded an **FNR NASA Grant** for her project **ASTROSTATS**, which explores how spherical stochastic processes can track the dynamics of sunspots. After previously working with the European Space Agency, this grant allows her to fulfill her dream of contributing to space science through mathematical research in collaboration with NASA.

Katarzyna Szczerba, who did an internship with the SanDAL team, has received an **FNR Industrial Fellowship** for her PhD project **LEARNHEALTH**. The project, focused on statistically enhanced and federated learning in healthcare, will be conducted under the guidance of Prof. Christophe Ley and Dr. Andreas Kremer from the industrial partner Information Technology for Translational Medicine (ITTM).

International Conference – ICON STARF 2024

The International Conference on Statistics and Related Fields (**ICON STARF**) took place from June 3-7, 2024, in Bertinoro, Italy, honoring Prof. Vladimir Koltchinskii and his transformative contributions to high-dimensional statistics and probability theory. Researchers and practitioners from leading institutions worldwide gathered to discuss advances in high-dimensional data analysis, adaptive estimation, nonparametric inference, and interactive decision-making frameworks. ICON STARF 2024 featured a distinguished lineup of speakers, each bringing unique perspectives and expertise.

Highlights included: Prof. Ming Yuan (Columbia University) who opened discussions on tensor methods in high-dimensional data analysis, emphasizing new ways to handle complex, multidimensional data structures. Prof. Alexandre B. Tsybakov (CREST-ENSAE) presented on adaptive density estimation, introducing innovative methods for efficient probability estimation under low-rank constraints. Prof. Jon A. Wellner (University of Washington) and Prof. Aad van der Vaart (TU Delft) revisited foundational statistical methods, examining their applications and evolution over time in both theory and practice. Prof. Richard Nickl (University of Cambridge) and Prof. Markus Reiss (Humboldt-Universität zu Berlin) discussed advanced nonparametric inference techniques and rank estimation for time-dependent covariance matrices, which have significant implications for the analysis of multidimensional time-series data. Prof. Alexander Rakhlin (MIT) and Assistant Prof. Dong Xia (HKUST) provided insights into interactive decision-making, introducing new approaches to policy learning in sparse and uncertain environments. The conference also featured engaging sessions led by Prof. Stanislav Minsker (University of Southern California), Prof. Lucien Birgé (Université Pierre-et-Marie-Curie), Prof. Sara van de Geer (ETH Zurich), Prof. Cristina Butucea (CREST, ENSAE, IP Paris), Prof. Cun-Hui Zhang (Rutgers

University), and Prof. Gilles Blanchard (Université Paris Saclay), all of whom shared cutting-edge work on robust estimation, high-order statistical expansions, and high-dimensional inference challenges. ICON STARF concluded with presentations by promising junior researchers, showcasing emerging work in dynamic system learning, contextual bandits, and robust regression. This year's conference highlighted the ongoing synergy between theoretical advancements and practical applications, underscoring Vladimir Koltchinskii's lasting impact on the field.

Workshop on "Time series and directional statistics"

The recent workshop on "**Time series and directional statistics - TIMEDATA**", held on February 29th, 2024, was funded by the prestigious IAS Distinguished grant and co-organized by three University of Luxembourg's professors: P**rof. Christophe Ley (Department of Mathematics), Prof. Diane Pierret (Department of Finance), Prof. Gautham Tripathi (Department of Economics and Management)**.

The initial meeting in 2023, organized by the SanDAL project, laid the foundation for ongoing collaboration between Waseda University and the University of Luxembourg. The 2024 workshop further strengthened this bond, fostering productive interactions among researchers from finance, mathematics, and economics. This interdisciplinary workshop served as a vibrant platform for discussions, showcasing cutting-edge statistical methods and their applications in various domains, including time series models for directional data on the sphere (relevant to space science and climatology), econometric model estimation and forecasting for policy-making, and statistical inference for financial engineering, risk analysis, and portfolio management.

Opportunity to connect with Tech companies in Luxembourg

Techie Night #23, organized on March 20, 2024, by Silicon Luxembourg in collaboration with the University of Luxembourg and supported by **ERA SanDAL**, serves as an outstanding opportunity for tech enthusiasts from various companies to connect and network with members of the University of Luxembourg. The event fosters discussions on a company's tech journey and the latest trends in the tech industry, offering the perfect platform for expanding networks and meeting like-minded professionals, including CTOs, developers, and entrepreneurs. **Prof. Christophe Ley** contributed to the event with a talk on **Master of Data Science** and current collaborations with non-academic partners.

Join us on December 10 for the Techie Night #27 here!