Welcome to SanDAL!

Dear readers,

Welcome to the first issue of the SanDAL newsletter, where you will find all the details regarding the project's activities and achievements during its first year.

SanDAL is funded by the European Commission's Horizon 2020 programme, with an overall aim to establish the multidisciplinary ERA Chair in Mathematical Statistics and Data Science (MS&DS) at the University of Luxembourg (UL). This will be achieved by the formation of a highly-skilled ERA Chair Team, through the recruitment of an ERA Chair Holder to lead the project and experienced researchers.

Over the course of the project, this ERA Chair will create impact in increasing the institution's research excellence in MS&DS by performing numerous research and networking activities, widening the scientific and innovation potential of SanDAL in two scientific areas: **1. High-Dimensional Data Analysis; 2. New Mathematical Tools for Contemporary Statistics**.

We hope that you continue to follow updates about the SanDAL ERA Chair and to stay informed of upcoming events!

About the project

For the next five years (2019-2024), SanDAL will elevate the university's expertise on several levels, including the formation of a team consisting of top-level talent, the creation of a strong research programme , introduce excellent postgraduate training opportunities and continue to support national and European R&D priorities through contributions from its respective scientific field.

Through the SanDAL project, there will be necessary structural changes generated within UL's Mathematics Research Unit (under FSTC) by:

a) Boosting its research and training capacity in MS&DS;
b) Forging strong links and providing MS&DS support services to local stakeholders in the logistics, healthcare, ICT, manufacturing and finance sectors.

Luxembourg Science Centre

The European Statistics Day or « Journée Européene de la Statistique » was celebrated on October 20th, 2019. Hosted by the Luxembourg Science Centre and STATEC, a special event was held on October 19th, featuring workshops and Meet &Greet opportunities in a multidisciplinary environment, including related sectors such as Health & Medicine, Journalism and Environment.

As the newly appointed prestigious ERA Chair Holder, Dr. Yannick Baraud was invited to speak during this event, where he highlighted his work for fundamental and applied research, as well as engaged with the general public. This proved to be an excellent opportunity to promote the aims of the SanDAL project and to be introduced to several relevant Luxembourgish sectors.

To learn more about Dr. Baraud's participation during the event, please visit here.

Project seminars

Dr. Yannick Baraud has also launched regular monthly seminars which aim to attract junior yet renowned experts in topics relevant to Mathematical Statistics, Probability and Data Science. These SanDAL seminars have been integrated into the existing "Probability and Statistics seminar", organised by a group of mathematics professors in probability.

At this time, the following seminars have been organised by the project:
- ✓ Alexandre Moesching (University of Bern), *Order Constraints in Nonparametric Regression* (30/01/2020)
- ✓ Richard Nickl (University of Cambridge), *On Bayesian solutions of some statistical inverse boundary value problems* (13/02/2020)
- ✓ Guillaume Maillard (Université Paris-Sud), *Aggregated hold-out (*13/02/2020)

To learn more about their sessions, please read their abstracts here.
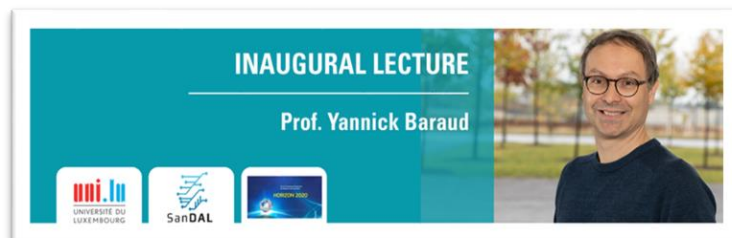
SanDAL Inaugural Lecture

Dr. Jean-Marc Schlenker's opening speech

The SanDAL Inaugural Lecture took place on January 23rd, 2020, as an excellent opportunity to introduce ERA Chair Holder Dr: Yannick Baraud to the diverse community involved in the domains of Statistics and Data Science. This event is a tradition for the University of Luxembourg, which commenced with the Dean of the Faculty of Science, Technology and Medicine, Prof. Jean-Marc Schlenker (the project coordinator), welcoming the ERA Chair professor to the institution and also sharing a few words about the significance of the SanDAL project for their faculty and the university as a whole.

Dr. Yannick Baraud addressing the audience

Aptly titled, "On the evolution of Data Science", the main focus of the event was Dr. Baraud's scientific lecture to an audience from a wide variety of backgrounds, including finance and biomedicine, among others. Incorporating an engaging perspective and thought-provoking notions during his talk, Dr. Baraud addressed the development of Data Science over time and the trajectory it has taken to become an essential component in multi-disciplines within academic and industry.

Following the lecture, audience members were also invited to ask questions. The ensuing discussion mostly centred around what experts in certain fields, such as mathematical statistics, lack of or better understanding about how machine learning algorithms work.

At least 100 participants attended this event, including colleagues, students and invited stakeholders. For information regarding this event, please visit the SanDAL website [here](#).

Dr. Yannick Baraud's inaugural lecture

1st Stakeholder Workshop

SanDAL round table discussion during the workshop

Following the SanDAL Inaugural Lecture, the first SanDAL workshop focused on stakeholders was also hosted by the project. This stakeholder workshop featured a round table discussion between invited participants from influential industrial, research and policy-shaping bodies: Chambre des Salariés (CSL), Statec, European Investment Bank (EIB), Luxembourg Centre for Systems Biomedicine (LCSB), Luxembourg Institute of Health (LIH), Telindus, and Talkwalker, and other UL departments (Economics). The overall theme of the workshop was: *Science education policy for data science in Luxembourg.*

During the event, these experts shared their insight on the Data Science gaps and weaknesses they have encountered in the Luxembourg landscape. They also offered collaboration opportunities to support data science education in the Greater Luxembourg Region. This led to a fruitful discussion with the SanDAL team which will be utilised for creating competitive teaching programmes at the University of Luxembourg and to further develop strategic academic and industry opportunities in MS&DS.

Upcoming events

In its 2nd year, the SanDAL project is proud to annouce that they are continuing to organise a range of academic and industry-related activities in the field of MS&DS:

❖ **The first SanDAL Summer School in Statistics** will take place from June 29-July 3, 2020. This will be an excellent opportunity to learn about recent and important developments in mathematical statistics directly from leaders in their respective fields.

❖ For Summer 2021, the SanDAL project is hosting its **first International Conference** during its third year. This event is expected to attract a wide audience of researchers, PhDs, staff and students. The programme will consist of lectures from high-level scientific experts in specialised topics.

❖ **The second SanDAL summer school** will be held as a joint event with the SanDAL International Conference in summer 2021. Targeted specifically for PhDs and Master students, the agenda will feature talks and presentations which are in direct correlation with their research interests.

❖ The SanDAL project also intends to reach out to a wider audience through **public events** with the University of Luxembourg. These events will be announced shortly.

For more information regarding upcoming events and registration, please vist the project website:

https://sandal.uni.lu/