

# THE MONTHLY LIST

NOVEMBER 2016



## NASA AND LIST START COOPERATION BASED ON TECHNOLOGY DEVELOPED IN LUXEMBOURG

With the financial support of the National Research Fund (FNR), the Luxembourg Institute of Science and Technology (LIST) has taken on a brand new 24-month collaboration project with NASA's Ames Research Center, one of the American space agency's ten field centres, located in the heart of Silicon Valley, California (USA). Having been impressed by the state-of-the-art technology developed at LIST as part of a previous project, NASA's Ames Research Center is pooling its expertise with that of LIST in order to adapt this Luxembourg-made technology to space applications.

As of 1 October 2016, LIST researchers have joined forces with specialists from NASA's Ames Research Center as part of a large-scale project: MS-SPACE (supported by FNR) aims at the development and benchmarking of a compact mass spectrometer for space applications. At the heart of this project lies a shared ambition: to adapt and pursue the advancement of the mass spectrometry technology developed over the last few years by LIST for space applications. Known as FieldSpec, this technology was developed for hydrological purposes as part of a previous project, also funded by the FNR. Thanks to its compact size and high mass resolution, it has the necessary potential to meet the requirements of space exploration.

One of the most important in-situ analysis tools in planetary science and astrobiology, mass spectrometry can help answer some of the big questions in planetary exploration. In order to operate in space missions, an instrument of this kind needs to be of highest performance, but yet lightweight, compact and compatible with the harsh environment of outer space. At the present time, no such tool exists. Therefore, it makes perfect sense that the Luxembourg-made state-of-the-art technology developed by LIST appealed to the specialists on the other side of the Atlantic. However, before it can become operational and have any hope of going on future space missions, the FieldSpec mass spectrometer needs to be adapted to space applications. LIST specialists will work in tandem with the NASA Research Center, drawing on all their expertise to meet such a challenge.

This first collaboration between LIST and NASA offers new prospects for the coming years, by paving the way towards more joint projects and technology transfers between the two institutions. In broader terms, the high international profile of a partnership of this kind will help to earn Luxembourg recognition as a major player in the field of space technology, particularly since the space industry is one of the key development sectors identified by the Luxembourg government.

Photo from left to right: Quang Hung Hoang, Tom Wirtz (MS-SPACE project leader) and Rathaiah Pureti

# OTHER HIGHLIGHTS



## Luxembourg

### NATIONAL RESEARCH INSTITUTES AND UNIVERSITY START JOINT DOCTORAL TRAINING

On 26 October 2016, LIST signed a collaboration agreement for joint doctoral training with the University of Luxembourg and the three other Luxembourg research institutions LISER, LIH and MPI Luxembourg. Henceforth, the supervision of PhD students will be provided by one of the signatory institutions and the doctoral degrees will be awarded by the University. Partners have already identified thirteen areas of joint research, including physics and materials science, biomedicine, as well as law, economics and finance. [Learn more on www.list.lu](http://www.list.lu)

## Conference

### THE ROAD TO UNLEASHING CUTTING-EDGE BUSINESS ANALYTICS IN LUXEMBOURG

At the conference “From Data Insights to Value: Key Infrastructural Opportunities for Unleashing Cutting-Edge Business Analytics in Luxembourg” to be held on 24 January 2017 at the Chambre de Commerce Luxembourg, LIST will launch a European project of strategic importance in line with the national High Performance Computer (HPC) initiative. Under its codename “DAP” for Data Analytics Platform, the project aims at setting-up both a start-of-the-art infrastructure and added-value services in Business Analytics for Luxembourg stakeholders. CEOs, CIOs and other executives are cordially invited to discover this major project that will help improve business and operational strategies and ultimately lead to smarter business decisions. DAP is coordinated by LIST and co-funded by the European Regional Development Fund (ERDF).



## Smart Space

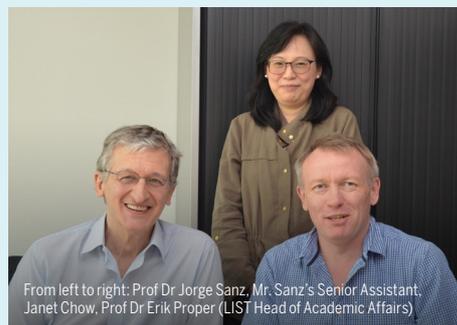
### LIST PROMOTES LUXEMBOURG'S SPACE ACTIVITIES

Acting as vice-president of the space cluster, Lucien Hoffmann, Director of Environmental Research and Innovation department, presented the activities of the Luxembourgish space sector at a seminar on satellite applications “El satélite y los servicios gubernamentales: iniciativas europeas - GovSatCom” held at the initiative of the Luxembourg Embassy in Madrid (ES). Both the use of space assets for governments and private companies and the Luxembourg's Smart Space initiative in the framework of the IPCEI (Important Project of Common European Interest)-HPC project which Spain and Luxembourg are involved in, alongside France and Italy, were highlighted. [Learn more on www.list.lu](http://www.list.lu)

## Scientific Excellence

### RENOWNED BUSINESS ANALYST JORGE SANZ JOINS LIST

A few months after the recruitment of Philippe Dubois as new director of the NCC-L, LIST has been able to attract another international academic top name to Luxembourg. Prof. Dr. Jorge Sanz has more than 30 years of applied research and practical experience in industry. He has worked in banking, telecommunications, government and health care for global and multinational companies in America and Europe. Starting on January 1<sup>st</sup>, Prof Sanz will be responsible for developing a national business analytics centre providing custom-made data-driven solutions to leading industries based on big data modeling, analytics and regulatory compliance technology. [Learn more on www.list.lu](http://www.list.lu)



From left to right: Prof Dr Jorge Sanz, Mr. Sanz's Senior Assistant, Janet Chow, Prof Dr Erik Proper (LIST Head of Academic Affairs)



## WHERE TOMORROW BEGINS

Located at the heart of Belval's Research & Innovation Campus, LIST can ideally connect its over 500 specialists in materials, environment and IT, including its more than 70 PhD students, through a broad range of joint projects, programmes and partnerships with virtually all of Luxembourg's other major research players. At Belval, the University of Luxembourg, LIH, LISER, Technoport, Luxinnovation and the National Research Fund are all literally within arm's reach.

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