

Press release

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INSPIRE: a new study launched by the Toulouse university hospital and its partners

Ensuring a healthy life and well-being for all at all ages as well as independent living as long as possible. The INSPIRE project aims to address these public health issues. Today, the Toulouse University Hospital and its partners - the Toulouse III Paul Sabatier University, the CNRS (French National Centre for Scientific Research) and the INSERM (French National Institute on Health and Medical Research), will conduct a study on the biological markers on aging, based on unique animal and human cohorts, thus providing better health across the life course for the future. This study is carried out within the framework of the Occitania / Pyrénées-Méditerranée Region, that dedicates a global amount of 12.8M€. Amongst these funds, 6.5M€ have been validated during the permanent Commission meeting that took place on 19th July 2019.

A novel aging model

The INSPIRE project aims to promote healthy aging, ie : « the process of developing and maintaining functional ability that enables well-being in older age », as defined by the World Health Organization (WHO). This should lead to establishing care dependency prevention programs **for 618 million persons by 2050**.

The Gérotopôle of the Toulouse University Hospital is a WHO Collaborating Center for Frailty, Clinical Research and Geriatric Training. This innovative organization is recognized as a national and international reference in geriatrics, more particularly for its scientific research on frailty issues.

This initiative is based on two major observations :

- The **need to identify biomarkers on aging to better understand the biological process of aging** and thus define a more biological age rather than just a plain civilian or chronological age;
- Health systems in most countries, including France, were established to identify and treat acute diseases in young adults, and are inappropriate for prevention schemes and therefore in maintaining functional capacities in all of their forms throughout the aging process: particularly mobility, cognition, sensory functions, vitality (nutritional status) and psychological status.

Led by Professor Bruno Vellas, with the collaboration of Professor Louis Castella, the scientific project will **develop a new paradigm on aging through novel research and care approaches**. The INSPIRE project will be **set up for a 10-year period** and is based on three fundamental aspects:

- Identification of biological markers on aging, coming from animal and human cohorts, that will lead to the development the translational research (clinical applications of basic science outcomes);

- Regular assessment and monitoring of functional capacities by using digital tools developed in collaboration with the World Health Organization within its ICOPE program. It will then be possible to detect in real time the reasons for functional decline and their biological processes, in view of implementing care dependency prevention programs throughout the Occitania Region;
- Identification of future therapeutic pathways that will target the mechanisms of aging (Gerosciences) to prevent age-related diseases.

ICOPE: «Integrated Care for Older People». Is a set of recommendations concerning integrated care for older people made by WHO and intended for healthcare professionals in France and all over the world. The Guidelines promote community-level interventions to prevent, delay or compensate the decline of physical or mental capacities in old people.

A cohort of a new kind with 1000 subjects: a key platform for the INSPIRE project

The Occitania / Midi-Pyrénées Region is a major partner of the INSPIRE project, along with the Fonds Européen de Développement Régional (FEDER). They bring full commitment and financial support, thus allowing the project to go forward. The Occitania Region, during its permanent Commission on 19th July 2019, accepted to provide a financial support of 6.5M€ for the project, in addition to the 6.3M€ of European funds bought by FEDER. **This global amount will enable to setup an innovative platform during the first three years, that will bring together clinical, epidemiological, social, biological and digital resources for age-related research and development.** Finally, the Region will dedicate nearly 57M€ over ten years for the INSPIRE project.

«The Occitania Region has voted for a funding program of 6.5M€ to support this novel project that will transform our territories and beyond those of the Occitania Region. Because I really believe that this initiative is important for the well-being of our citizens, and for our local economy and research development, I am fully committed to secure its future and its financial stability, so that the Occitania Region becomes an international research-care-innovation cluster dedicated to aging.» declared Carole Delga, President of the Occitania Region.

This platform will more specifically provide data and resources concerning humans and animals. It is intended for the scientific community and health industry. The development of new technologies will allow at-distance assessment and follow-up of functional capacities, as from the age of 30 years old and up to a more advanced age (over 100 years old).

To realise this project, the INSPIRE teams will work on the human research cohort with 1000 voluntary subjects. At the international level, this will be a first-ever study on aging issues. Recruiting will start in autumn 2019 and will continue during two years. Participants will be assessed at the Gérontopôle of the Toulouse University Hospital and will be followed-up for up to 10 years. However, in order to maintain the number of volunteers to 1000 subjects, complementary recruitments could be undergone throughout the study and participants will have a face-to-face appointment every year. Between each visit, the subject will do self-assessment by using the ICOPE online questionnaire. According to patients' outcomes, they can be seen either at home or at the University Hospital during the year.

Other subjects will be recruited for the **INSPIRE digital cohort**, that will follow-up tens of thousands persons for personal counselling in view of preventing functional decline (via an Internet platform / application for mobile or tablet, for example).

Simultaneously, the **research cohort on animal** will be implemented, in the same way as the human cohort, and will focus on understanding the key biological mechanisms of aging and their novel targets.

The INSPIRE project aims to develop an integrative approach to biological aging ; to promote novel aging biomarkers ; as well as new technologies for the assessment and monitoring of functional capacities. The Consortium made up of the Gérotopôle of the Toulouse University Hospital and other research laboratories¹, gets together their expertise to manage key biological components (immunity/inflammation, metabolism, cell repair). These are outlined in all organs, are vital for a healthy function and are greatly impaired by the aging process.

The results and developments will in turn give way to novel pathways for new strategies (person centered healthcare programs as opposed to the current disease management, an online clinical research health center) as well as new therapies (drugs, biotherapies, non-interventional pharmacologies) to maintain and reverse functional capacities to their best level.

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