



HEALTH-CARE RESEARCH

# Dr. UTC : an excellent “first” venue

On January 31, 2019, the first edition of RencontreSante [Health care] was convened at the UTC Daniel Thomas Innovation Centre. The event was co-organized by Sabine Bensamoun, CNRS research officer at BMBI-UTC (bio-mechanics and bio-engineering) and Professor Jean-Marc Constans, Head of Neuroradiology at the Teaching Hospital (CHU), Amiens (CHIMERE/IFF-CHU). The key guest speaker on the agenda was none other than Professor Bernard Devauchelle, Head of Maxillofacial and Stomatology Surgery, likewise from the CHU, Amiens.

**P**rof. Bernard Devauchelle, a famed maxillo-facial surgeon, was successful in completing the world's first part-facial graft in 2005. Thursday Jan.31, 2019, Prof. Devauchelle was among a group of medical practitioners from the CHU-Amiens and research scientists working at the UTC-BMBI Lab (biomechanical and bioengineering), which is a CNRS associative structure, who met to share their knowledge in a set of health related areas. In fact, collaboration among between scientists and doctors is pursued continuously, notably via the Institut Faire Faces and the Chimere team at the CHU Amiens. Results of the collaboration are to be found in numerous publications, patent claims and technology-intensive developments. The one-day venue threw light on joint research efforts engaged between UTC labs and the CHU. Sabine Bensamoun, a CNRS research officer was in the steering committee that organized the RencontreSanté day. With her team, she has developed a non-invasive medical imaging technique that allows you to characterize and quantify the functions of face and neck muscles, before and after surgery.

“The technique implements the Magnetic Resonance Imaging (MRI) facility installed at the CHU-Amiens, and used by the Institut Faire Faces (IFF). The technique in question was developed for two clinical applications: restitution of facial mimicry and quantification of cervical fibrosis”, sums up the research officer Bensamoun who also enjoyed a stay at the Mayo Clinic Foundation (Rochester, MN, USA), which is a case-book reference for medical research.

### Understanding and doing

“As surgeons, our job is to do and understand, whereas, for research scientists, one first understands then does. The work carried out jointly between the teams from UTC, Chimere and the Institut Faire Faces, relies on the quality of the link between UTC and the hospital, and more particularly with the



CÉCILE LEGALLAIS, DIRECTOR OF THE UTC-BMBI LABORATORY AND DR SOPHIE RICOUSSE

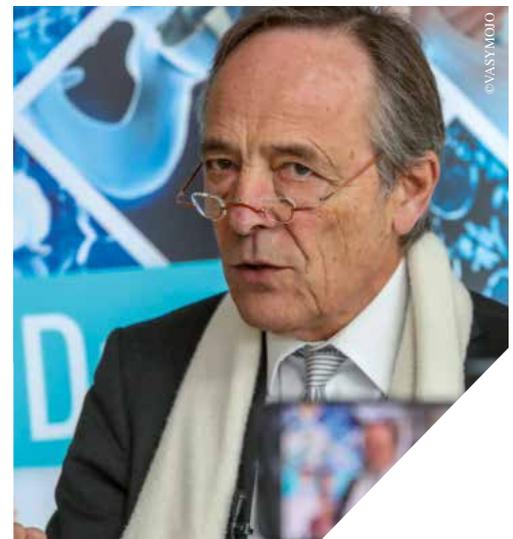


JEAN-MARC CONSTANS AND SABINE BENSAMOUN

surgery unit where we work. The research carried out by Sabine Bensamoun at the UTC-BMBI lab has given us the opportunity to ask ourselves a long series of questions in regard to surgical operation and how one goes about measuring its efficiency”, says Prof. Devauchelle enthusiastically who also avail do the floor at the RencontreSanté event to announce the laying of a foundation stone for the forthcoming and highly expected building for the Institut Faire Faces. Work will commence I 6 months’ time for a delivery date in 2021 of the research centre devoted to European reference work in favour of disfigured patients, close to the CHU-Amiens. The building project, supervised by Prof. Bernard Devauchelle, will cover more than 4 000 m<sup>2</sup>, with combined pluridisciplinary research and teaching rooms, plus an experimental surgical operating unit, a fully equipped imaging facility, a lecture hall, exhibition centre and other mobile wall research areas. “We shall, not however, be doing any real surgery on site”, he concludes. “A strong focus of the new centre will be on training in an inspiring environment. The Institut Faire Faces has been engaged in this long process for more than ten years now ». ■ KD

**BIOLOGY CONFERENCE AND LIVING TISSUE FUNCTIONS**

With Drs Richard Ehman, Peter Amadio and John Hawse from the Mayo Clinic, Rochester, NY State, USA.  
**Monday March 11, 2019 as of 1:15 pm** at the UTC Daniel Thomas Innovation Centre



PROFESSOR BERNARD DEVAUCHELLE

### FROM RESEARCH TO A CLINICAL ROUTINE

Magnetic Resonance Elastography (MRE) (or using ultrasonics (US)), is an imaging technique based on propagation of shear waves in soft tissues that allows you to quantify various mechanical properties (e.g., elasticity, viscosity). It has been applied successfully to study healthy and unhealthy muscle tissues, as well as to fibrous tissues. The objective assigned to this research project is to develop this non-invasive, medical imaging technique to quantify face and front neck muscles before and after treatments. “Assessing and correlation levels of fibrosis with the treatment administered will prove decisive when it comes to evaluating the benefit/risk factors for these patients”, underlines Sabine Bensamoun. Elastography allows for objective measurements appertaining to the effects of the treatments and which could consequently be administered preventively to combat then sequels of cervico-facial cancers. The Saint Côme Polyclinique, Compiègne, already makes use of these new elastographic techniques thanks to the medical commitment and dynamic response of the Radiology Service, headed by Dr. Fabrice Charleux.

