

- [SITE UTC](#)
- [Newsletter](#)
- [Twitter](#)
- [Facebook](#)
- [Web TV](#)
- [EN](#)
  - [FR](#)
- [Search in interactions.utc.fr](#)

Name of the website

Menu

Menu complémentaire

Focusing

[on meaningful innovation](#)

- [Themes](#)
  - [Bio-mechanical and Bio-engineering sciences](#)
  - [Industrial Design](#)
  - [Biology, Bio-chemistry and Bio-technologies](#)
  - [Electro-mechanical engineering](#)
  - [Process engineering; Chemistry; Sustainable development](#)
  - [Mechanical and Materials sciences & engineering; acoustics](#)
  - [Applied mathematics](#)
  - [Multi-scale urban system modelling](#)
  - [ICTs: computer sciences; Automation & Control; Decision theory and applications](#)
  - [Technology, Social Sciences and Humanities](#)
  - [Pluridisciplinarity](#)
  - [Doctorate](#)
  - [Prizes and Competitions](#)
  - [International](#)
  - [Innovation local ecosystem](#)
  - [Campus life, art and culture](#)
  - [Entrepreneurship](#)
  - [You have the floor](#)
- [Magazine](#)
  1. [Home](#)
  2. [Themes](#)
  3. [Bio-mechanical and Bio-engineering sciences](#)
  4. Prevention and detection of senior citizens falling

[Bio-mechanical and Bio-engineering sciences](#)

Articles

## Prevention and detection of senior citizens falling

The 5th PARACHUTE Conference, organized November 23, 2016, heard status reports on various systems that serve to prevent and detect senior citizens falling. The UTC-e-BioMed Chair took part in the event, presenting its solutions and addressing possible future for this special field of medical research.

13 Feb 2017

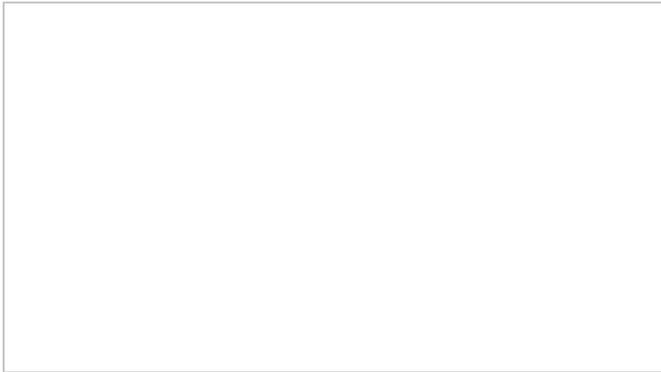
**50 research scientists and various industrial representatives took part in this event that focused on recent technological progress but also pinpointed some of the hurdles to the dissemination of innovations.** *“Research here has progressed enormously here over the past two decades in terms of fall detection but the most advanced solutions have still to be commercialized, because there is no viable economic model as yet”* details Dan Istrate – the tenured holder of the e-Biomed Chair at the UTC-BMBI UMR 7338, Lab (Bio-Mechanics & Bio-Engineering) – who chaired a round table with a somewhat provocative title, viz., *“Is it worthwhile investing in research on prevention and detection of people falling down?”*. As an actigraphics specialist, Prof Istrate underscores the fact that over and above the technological aspects, *“there should be a thrust to engage research in a ‘living lab’ context open to user demands and expectations”*. Development of assistance services and enhanced relationships with the families are also highly necessary to make tools like these attractive for the public at large. Their acceptability by elderly persons was also one of the difficulties addressed during the talks. The requirement that these persons wear a sensor constantly is a constraint that is not well accepted. A company, *Senior Alerte*, presented its remote assistance solution calling for movement sensors positioned in the person’s home.

### **New pathways for prevention**

Special emphasis was placed on an as yet little explored aspect, viz., fall prevention. But it clearly holds promise in terms of benefits for the users’ health and well-being. One of the ideas was that to encourage elderly persons to walk continuously using virtual reality techniques can prove to be beneficial. For example, a talk was given on a European project “iStoppFalls” using a serious game with the help of a kinesiologist to make the movements game-like. The benefits of using this device were tested and found positive with some 200 persons throughout Europe. Another aspect dealt with how to detect prior signals that lead to prediction of an imminent fall. UTT (Troyes) presented a way to assess and predict loss of balance; two UTC projects described a sensor-free way to monitor movement. The first project – in a partnership with the *Paris Electronics Laboratory* related to using a radar based movement detection, plus a measure of heart rates and breathing. The second project is a thermal sensor co-designed with the major electric equipment company *Legrand* to study sleep movements and hence deduce quality of sleep, the latter being a key factor when it comes to preventing falls. This equipment is installed on a wall to enable easy bed maintenance and already equips 3 dependent senior citizen homes – it will be on sale as of 2018.

## Read also on the same subject

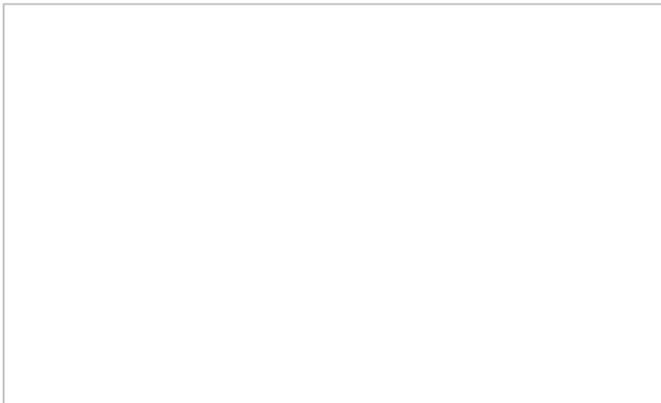
### Files



[Theme : : International](#)

[42 : The Shanghai Campus is 12 years old. Well done UTseuS!](#)

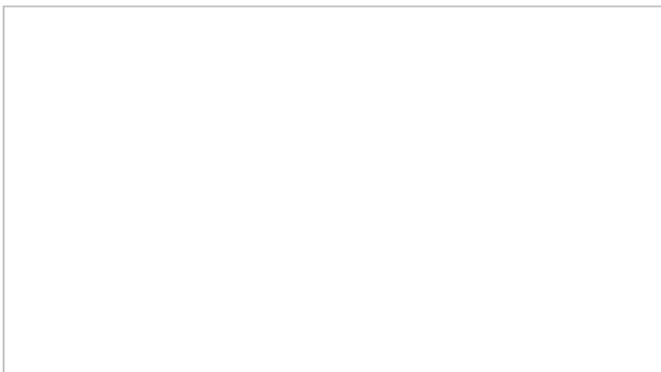
### Articles



[Theme : : Bio-mechanical and Bio-engineering sciences](#)

[A Bio-Medicare House of the Future, at the UTC Innovation Centre](#)

### Articles



[Theme : : Bio-mechanical and Bio-engineering sciences](#)

## [E-Biomed: a new academic chair for connected biomedical objects](#)

### Web TV



## [Un serious game pour la rééducation fonctionnelle à domicile](#)

[PDF](#)

[Share](#)

- [Facebook](#)
- [Twitter](#)
- [Linkedin](#)

[Reading](#)

[comfortPrint Français](#)

## Magazine

The magazine is available in French and English

Feb 2017 • n° 42

## **UTseuS, le campus des UT à Shanghai, 12 ans déjà !**

- [Interactive version](#)
- [Download in french - PDF - 1316 Ko](#)

(Couverture) Interactions - Feb 2017 • n° 42

[Other magazines](#)

## Subscribe to UTC interactions newsletters

**Donnons un sens à l'innovation**

Construite sur une pédagogie de l'autonomie et une recherche technologique interdisciplinaire orientée vers l'innovation, l'UTC forme des ingénieurs, masters et docteurs aptes à appréhender les interactions de la technologie avec l'homme et la société.

Avec ses 9 laboratoires de recherche et son ouverture internationale, l'UTC se positionne parmi les meilleures écoles d'ingénieurs dans le monde.

- [WEB-TV UTC](#)
- [Graduate](#)
- [Donation](#)
- [Contact the writing staff](#)
- [Credits](#)
- [Legal mention](#)
- [Cookies](#)