CBH Graduate School
Université Grenoble Alpes

HEALTH

TRANSLATIONAL INNOVATION IN MEDICINE AND COMPLEXITY LABORATORY

UMR 5525

Health technologies | *Living systems* | *Big data* | *Complex data* | *Information technologies* | *P4 medicine*

KEY FIGURES:

130 permanent researchers and lecturers

35 technical and administrative staff

95 PhD students and postdoctoral researchers

200 publications per year (on average)

+/-10 patents over the last 5 years

OVERVIEW

The *Translational Innovation in Medicine and Complexity Laboratory* (*TIMC*) brings together scientists and clinicians around the use of computer science, applied mathematics, and (micro)biology to understand and control normal and pathological processes. Its interdisciplinary activities contribute both to fundamental knowledge and to the development of systems for diagnostic and therapeutic support.

RESEARCH TOPICS

- **Dynamics and interactions of living systems:** nanobiotechnological and biomimetic systems; translational research in autoimmunity and inflammation; translational microbiology – evolution – engineering.
- **Big and complex data science for health:** computational biology and modeling; models and algorithms for genomics; environmental health and prevention in populations; modeling and evaluation of complex data in public health.
- **Health engineering and information technologies:** biomechanics of living tissues and materials – modeling and characterization; computer-assisted surgical procedures; experimental, theoretical, and applied cardiorespiratory physiology; health – plasticity – motor control; methods for evaluating and modeling health actions.

https://www.timc.fr/