

## *Advances in Translational Medicine: a new translational science sharing platform*

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The common ambition of translational medicine is to generate new pathophysiological hypotheses for the identification of original therapeutic targets and the development of innovative prevention or treatment strategies. The journal *Advances in Translational Medicine* (ATM) has been established to fulfill an urgent need in academic and industrial medicine: new ideas or findings in basic research need a rational and timely shift into applied medicine. In addition, there is a lack of interdisciplinary communication on research findings and strategies to lead the discoveries into clinical use. Up to now, this combined information-package may be obtainable in journals related to special organs or diseases, mostly with publications either on basic research or on clinical treatment topics. Basic research as well as clinical subjects are of a large variety of methods and aims. Up to now, there is no widespread communication platform between these fields concerning the strategies and the results of generating new basic research evidence relevant for medicine.

Basic research experts are trained and working in various fields associated with a multiplicity of medical

areas. Basic researchers may be specialists in chemistry, biochemistry, physics, data science, engineering, biophysics, pharmacology, nutritional science, epidemiology, genetics, human genetics, etc. The main medical fields relate to the diagnosis and treatment of diseases in various organs, disease prevention, and follow-up either academically or in routine practice. Sometimes laboratories and clinical institutions either work on their own or have special usually organ disease-related cooperations. These cooperations, if effective at all, are assigned either to academic cooperations at universities or to research institutions.

The progress and breakthroughs of translational medicine are inseparable from the introduction of relevant policies, the establishment of research platforms, the cross-integration of multiple disciplines, and the sharing of research resources. However, the processes of mutual exchanges sometimes are difficult due to personal staffing changes or due to lack of specialized knowledge. Eventually some lack of trust into basic research results may prevent the next step with a shift into medical

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relevance. These difficulties occur in both fields, with basic researchers and with medical scientists. In addition, missing clear strategies of how to translate basic research findings into medical applications often are preventing the timely transfer of important basic research novelties to the optimization of medical fields. These sometimes missing optimal forms of cooperation are leading to difficulties in financing—a vicious circle. Too frequently it can be observed that basic research and clinical medicine are like two lines running in parallel without a chance to merge towards improvements—on both sides.

Translational medicine is a bridge between the laboratory and the clinic/health sciences, which facilitates basic biomedical research results to be translated into clinical practice in a timely manner and allows the problems faced in the process of clinical practice to be fed back to basic researchers promptly. This can effectively reduce the two-way barrier between basic research and clinical practice, promote the deep integration of basic research and clinical practice, and ultimately benefit patients. With the cross-integration of basic medicine, clinical medicine, biology, bioinformatics, chemistry, materials science, engineering, and other disciplines, translational medicine research has permeated all aspects of disease prevention, diagnosis, treatment and rehabilitation, and has become one of the key and hot research directions in life sciences; it has also achieved a series of research breakthroughs.

Since it is important to exchange actual and strategic experience, even between not directly related fields, it is of utmost importance to have a communication platform that meets this desirable need. The journal ATM offers optimal communication between various subjects and topics in multiple areas of basic research fields and medical subjects on an international level.

We, the editors, have the experience that it may be difficult and time-consuming to translate basic research findings into clinical applications, and are fully supporting a much more effective application strategy of basic research innovations into the optimization of the relevant clinical fields [1-3]. Therefore, relevant reports including findings and strategies need to be available from different research fields, offering the chance to learn from each other—a chance that is rarely available in already established communication structures, such as journals or conferences.

Scientific themes have to be in perfect harmony with the problems encountered by clinical teams, including in particular the study of pathophysiological mechanisms involved in the contexts of diseases. Optimizing and accelerating translational research approaches is therefore an essential objective for most research teams involved in whatever thematic field. Success within a relative time limit may also be a parameter for judging financial support by private or governmental institutions. ATM will expedite filling the gaps in preclinical medicine, pharmaceutical research and clinical treatment through its publication strategy to promote the care/research

interface by facilitating communication and interactions between medical teams and researchers for the design, implementation of innovative projects, rapid sharing of progress and discovery, and breakthrough findings. The major aims of ATM are:

- To create a dynamic for the deployment of research projects;
- To define a communication strategy specific to translational research to rapidly make new information and the results of scientific advances accessible to a large medical-scientific group and also to the public or industrial partners around major cross-cutting, multidisciplinary projects;
- To organize interactions by improving the visibility and attractiveness of different organizations of translational research;
- To optimize the dissemination of elements of progress generated by the scientific and medical community in the field of advances in translational medicine.

Relevant to these aims listed as examples for new communication challenges, the ATM journal will be dedicated to receiving manuscripts from many different topics. Thus, the journal covers all areas of translational research in medicine. The Editorial Board consists of experienced basic and clinical researchers from the various fields defined above. The most modern developments such as modern tumor specific diagnostics (including early specific detection), bioengineering, biotherapies involving molecular or human genetic and cellular approaches, personalization, prevention of diseases such as cardiovascular or metabolically related personal threats, are covered with the support of the editors [1–3]. Of course, new technologies related to these fields, such as the use of biomaterials for the treatment of chronic diseases by the creation of patches, new delivery platform, associated with or not with cells, with bioactive factors or extracellular vesicles, aiming to repair or even regenerate organ failure, and new technologies for point-of-care diagnosis and surveillance and telemedicine, or the use of novel artificial intelligence/machine learning methods for optimizing healthcare delivery, are of great interest. The efforts of the whole editorial team will focus on the spread of optimized strategies (chemical, physical, mechanical, bioengineered, etc.) within the framework of collaborative intersectoral/interdisciplinary projects in academic or research institutions/foundations (not necessarily excluding projects with industrial partners). However, it will also be a question of promoting the design, development and evaluation of new biotechnological approaches and of biotherapies by amplifying the connections with many expert research structures in these fields.

As Co-Editors-in-Chief of ATM, we will assure the rapid development of the journal and support the publication of manuscripts of high quality for new and successful strategies to improve basic research innovations' translation into medicine/healthcare with various

specialists around the world—thus relevant to the journal's extraordinary aims, that certainly will fulfill the desires of the scientific community. Like other Luminescence journals, ATM is a peer-reviewed and open access journal, and all published content is free to share to readers. Sharing all aspects of translational research in medicine in the corresponding academic community will open a new door to rapidly improve the results with innovations in both fields—with significant benefits for public communities and patients. In the near future it can be imagined that Zoom talks on certain topics between interested specialists can be conveyed and organized.

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