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Preface

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During my long career in dairy research, and because I was lucky to obtain some new results which have led to worldwide developments, I got the chance to visit and to have in depth exchanges with the researchers of most of the world dairy research centers. Among them, I remember the birth 25 years ago and over the following decades, the progressive and steady development of the Centre de recherche en Sciences et Technologie du Lait (STELA Dairy Research Centre) located in the renowned Laval University in Québec City.

Thanks to the dynamism and the strong wills of the pioneering scientists who initiated this center, attributes which were continuously displayed by successive directors, the STELA research center has become one of the leading institutions in the world for dairy research. Its scientific outputs, measured by the number of peer-reviewed papers published in international journals dealing with dairy science, are undoubtedly ranked among the world's top five research groups. The range of activities and research studies performed by its members have always been aimed at combining the acquisition of fundamental knowledge on the biochemical and physical properties of milk components, to their interactions under the effects of technological treatments (heating, cooling, pH change, mechanical action notably microfluidization, specific enrichment either in milk fat or in protein groups by separation processes based either on size or on crystallization temperature, etc.), their biotransformations by microbial ecosystems, and employing this acquired knowledge for the improvement of milk transformations which are performed worldwide.

Within the Canadian dairy sector (production and industry), a strong partnership has been established, since the initiation of STELA, in order to take into consideration the research performed in the many areas, and moreover, consideration of the specific requirements originated by the food culture of national consumers, with all the results enhancing the optimization of the quality of dairy products, productivity, and the high added value for milk components. Through this strategy,

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which I personally consider to be the best, many high level PhD students educated by the STELA group have attained positions of high responsibilities, not only in Canada but in several other countries. Is there any greater satisfaction for any professor to have given, by his research work and his teaching to a young student, the possibility to express his or her deep motivation, competencies, and qualities within the fascinating field of research and development which is constituted by the derivatives obtained from this marvelous liquid, milk?

Another characteristic which has always been followed by the members of the STELA group is the constant will to establish strong and positive links with members of other dairy research centers located all around the world. Most of its members have regularly spent their sabbatical leave abroad and through that, deep and positive relationships have been sustained. I am personally sure that in many places, as in our center in Rennes, the members of STELA can feel at home when they come.

The worldwide recognition of STELA is also due to the fact that its successive leaders have always intuitively known the correct time to align their research with the future needs of industry and society. A recent demonstration of this visionary guidance has been their role in the creation of the Institute of Nutraceuticals and Functional Foods (INAF) and the collaborative research performed with this neighboring institute relating to human digestibility (use balance, kinetics, satietogen consequences, and modifications induced by technological treatments) of dairy products according to their composition, their physicochemical characteristics, their microstructure, the development of research on minor protein components (particularly on growth factors) and the intensification of studies on the microbial ecosystems used in milk transformations through the use of the most advanced methods of molecular biology. In my personal opinion, these examples represent most of the priority research fields for which knowledge is required during this new century in order to face the fascinating challenge constituted by both the nutraceutical aspects of human foods and highest control for quality and safety of fermented dairy products.

All past and current members of STELA can be proud of what they have achieved over the last 25 years. This special issue of *Dairy Science and Technology*, which contains particularly up-to-date papers, is a way for us to pay them homage for the quality of their studies and thus, to have significantly contributed to the progress of dairy science and technology.

Jean-Louis Maubois
Honorary Editor in Chief