

## Letter from the editor

Of the four papers published in this issue, two papers are on bioengineering. I was a reviewer for one of the papers, “Efforts toward commercialization of antifreeze protein.” It was a submission from a private company, and it primarily discussed the difficulty of commercialization. In fact, this paper can be seen as a follow-up report to “Mass preparation and technological development of antifreeze protein—Toward a practical use of biomolecules” by Nishimiya *et al.* published in the first issue of *Synthesiology* in 2008. At that time, the paper discussed numerous fields to which the technology would be applied, and it seemed that the product would be put to practical use right away. In reality, there were many hurdles that had to be cleared, and this turned out to be a topic that highlighted the difficulty of social implementation. Ultimately, the scenario was greatly altered to reach product realization, and there may be another change in the scenario before the technology becomes major business. When that happens, I hope there will be another paper. I shall look forward to that. Incidentally, Mr. Ishii, one of the authors, responded rapidly. Perhaps this emerges from his high corporate cost consciousness or commonsense as a businessperson, but I felt I must emulate his actions.

The other bioengineering paper was “Development of a bovine sperm selection procedure for improvement of livestock fertility,” and there were many universities,

research institutes, and companies that participated in the analyses and demonstration experiments. The scenario described shows that the division of roles was set from the very beginning and the final form of the outcome was laid out carefully. I thought it was excellent that the format of social implementation was imagined from the beginning, and the target product was something the farmers could accept. The enthusiasm for Tokyo Olympics is rising. Behind a sports athlete, there are dozens of supporting staff, and I hear they provide backup in their respective fields of specialty. I feel it is the same when a product is launched to society, as product realization does not happen by efforts of one single researcher even if the product is excellent.

We also received a submission of “A new process to develop a hydraulic system adapted to biodegradable hydraulic oil for construction machinery” in which the main topic is a solution for biodegradable hydraulic oil in consideration of the environment, and “Measurement of mass of aerosol particles” which is related to a timely topic of the standard of mass. I will not go into details due to limitation of space, but I am pleased that we are able to publish high quality papers that encompass both the basic and application research in their respective fields.

(GOTOH Masanori, Editor)

## ***Aim of Synthesiology*** — Utilizing the fruits of research for social prosperity —

There is a wide gap between scientific achievement and its utilization by society. The history of modern science is replete with results that have taken life-times to reach fruition. This disparity has been called the *valley of death*, or the *nightmare stage*. Bridging this difference requires scientists and engineers who understand the potential value to society of their achievements. Despite many previous attempts, a systematic dissemination of the links between scientific achievement and social wealth has not yet been realized.

The unique aim of the journal *Synthesiology* is its focus on the utilization of knowledge for the creation of social wealth, as distinct from the accumulated facts on which that wealth is engendered. Each published paper identifies and integrates component technologies that create value to society. The methods employed and the steps taken toward implementation are also presented.

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Starting from this issue, the order of the romanization of Japanese names is “first name, last name”.

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