

## Commentary by the Winner of the 10<sup>th</sup> *Journal of Oleo Science* Best Author Award

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I am immensely pleased to know that *Journal of Oleo Science* has selected me as the recipient of the Award for Best Author for the year 2019. The journal has chosen for this award three of our articles published in it during the year 2018 (*J. Oleo Sci.* **67**, (4) 433-443 (2018); *J. Oleo Sci.* **67**, (6) 763-771 (2018); *J. Oleo Sci.* **67**, (12) 1511-1519 (2018)). I would first like to thank the journal team for recognizing our research contributions by offering this honor.

We have so far been studying the systems consisting of phospholipid bilayers. The membranes made of such bilayers, when dispersed in water, form spherical vesicles known as liposomes. The liposomes are used in pharmaceuticals as a tool for transporting drugs inside the body. An additive such as cholesterol is often used to optimize the properties of the lipid bilayer. However, cholesterol, an animal derived sterol, is associated with certain health hazards in the humans. In our research, we have been focusing on the possibility of discovering formulations able to function with higher efficiency and lesser health hazards.

In our papers mentioned above, we have shed light on the phase behavior, hydration properties and liposomal characteristics of important phosphatidylcholines in the presence of  $\beta$ -sitosteryl sulfate. We report that  $\beta$ -sitosteryl sulfate modifies the phase behavior and hy-

dratation properties of the lamellar bilayers of the saturated phosphatidylcholines in a manner favorable for pharmaceutical application. Similarly, it also enhances the dispersibility and stability of the liposomal particles made of those phospholipids. Apart from this,  $\beta$ -sitosteryl sulfate reduces the size of the liposomal particles by several folds making it easier to prepare appropriately sized particles useful for skincare formulations. Thus, using  $\beta$ -sitosteryl sulfate as an additive can provide a method for preparing stable liposomes of enhanced aqueous volume that are appropriately sized for using in formulations.

At this moment when I am expressing my pleasure for the honor offered by *J. Oleo Sci.*, I would like to thankfully acknowledge the contributions made by other co-authors of these publications. I would like to express my gratitude towards Prof. Hideki Sakai, without whose guidance, support and encouragement this achievement would not have been possible. I am equally thankful to Dr. Teruhisa Kaneko and Dr. Chihiro Kaise of LVMC Inc. Tokyo, for their continued support, guidance and collaboration in our research as well as their efforts in enhancing the quality of the manuscripts. Last but not least, I would like to thank the rest of the co-authors and everyone who contributed to our research.