PRESS RELEASE

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Shiseido Company, Limited

Shiseido MIRAI Technology Institute's Researcher, Kumiko Kikuchi, Ph.D., Received the Charles E. Ives Journal Award of Journal of Imaging Science and Technology

Kumiko Kikuchi, Ph.D., a researcher at Shiseido MIRAI Technology Institute, has received the Charles E. Ives Journal Award of the Journal of Imaging Science and Technology, an international journal published by the Society for Imaging Science and Technology (IS&T) *1, for her research paper titled "Development of a System to Measure the Optical Properties of Facial Skin using a 3D Camera and Projector". This prestigious award is given in recognition of an outstanding contribution in the area of basic or applied science or engineering published in a Society journal ("Journal of Imaging Science and Technology" or "Journal of Electronic Imaging") during the preceding calendar year. The research conducted by Dr. Kikuchi together with Norwegian University of Science and Technology was recognized as the best technical paper published in the Society journals in 2021.

In its 100-plus-year history of research and development, Shiseido has developed various measurement technologies to evaluate skin characteristics. By applying cutting-edge technologies including image analysis that is well presented by Dr. Kikuchi's research, we will continue to pursue our research to elucidate the optical properties of skin that determine skin visual qualities, including "dullness", "radiance", "translucence" and others, which has been considered difficult to evaluate objectively until now, while also aiming to clarify the biological factors that pose an influence on these optical properties.

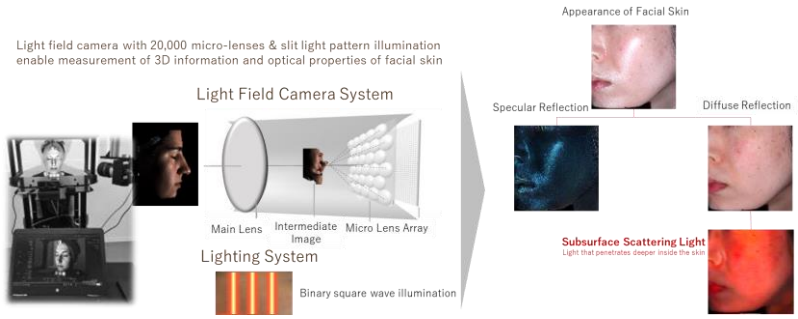
*1 IS&T: The Society for Imaging Science and Technology is an international professional organization established in 1947 to introduce the latest science and technology in the field of imaging engineering and promote its development. It covers all aspects of imaging technology from image measurement to imaging processing and reproduction, and also focuses on a wide range of image-related applications such as security, virtual reality, machine vision, and data analysis.

Summary of award-winning research paper

■ "Development of a System to Measure the Optical Properties of Facial Skin using a 3D Camera and Projector" (Joint research with Norwegian University of Science and Technology)

The optical properties of skin are involved in the determination of skin visual qualities such as skin dullness, radiance, and translucence, and quantitative measurement and evaluation of those properties are attracting a great interest not only in the fields of dermatology and cosmetology but also computer graphics and computer vision. The optical properties of skin depend on the light that follows various pathways, such as the light that reflects on the skin surface and that enters and exits the skin, etc. In this paper, the team introduced a technique to separate the light following these various paths into specular reflection, diffuse reflection, or subsurface scattering light, and measure them three-dimensionally in align with the 3D shape of the face.

Shiseido MIRAI Technology Institute Researcher, Kumiko Kikuchi, Ph.D.



Outline of optical measurement system