

Symposium 1

Bringing the micro-world to everyday life using mobile microscopy

Organizers: Masashi M. Hayakawa (Japan) and Kuniaki Nagayama (Japan)

Synopsis: A mobile microscope is built on a simple mechanism: a single lens is attached to the digital camera of a smartphone or tablet device. With the mobile microscope, the sample image magnified by the single lens are photographed with the camera, making it easy to observe the detailed structure of microorganisms such as protists. The mechanism of mobile microscope is the same as that of a simple optical microscope which was invented as a hand-made microscope about 300 years ago by Leeuwenhoek. While Leeuwenhoek observed samples through his own eyes, the mobile microscope uses the digital camera of mobile devices instead. And then, the enlarged sample image is displayed on the monitor screen of smartphones or tablets. Therefore, our eyes never get tired, and the same sample image can be shared among a group of people at once, leading a microscopic world sharing. In the past, Leeuwenhoek-type simple optical microscopes has gone extinct, and compound optical microscopes became the mainstream of tool for microscopy. With the advent of mobile devices such as smartphones and tablets, nowadays spread to every corner of this globe, the 21st century Leeuwenhoek-type microscope has been revived as a new tool for inviting people in the micro-world. Interestingly,

Leeuwenhoek was also the first person in human history to discover protists using his simple microscope. Just as Leeuwenhoek once observed protists with his microscope, let us play with protists and micro-world as well using mobile microscopy. In order to raise the new culture of microscopes, we, Life is small. Projects, have been managing the science communication using mobile microscopes. In this symposium, we are going to introduce the basic ideas of mobile microscopes, methods of observing micro-world including protists, and our science communication activities in general along with. We would like to share this new tool to access the micro-world with everyone who likes everyday enjoyment with the tool including one who specializes in protistology.

Speakers:

Kuniaki Nagayama (Japan), Isao Tsuduki (Japan) and Kim Sothary (Cambodia), Kazumasa Sato (Japan), and Yoko Takeshita (Japan)

