

<u>Name</u>	<u>Organisation</u>	<u>Project title</u>	<u>Decision No.</u>	<u>Decision date</u>	<u>Funding period</u>	<u>Funding</u>
Kinnunen, Matti	OY	Development of optical tweezers system dual-beam setup, adjustment and measurements	134232	31.03.2009	01.04.2009 - 31.12.2009	4 100

**Project description**

Optical measurements in biology and biochemistry have many benefits when comparing several other techniques. When using moderate optical power, they are non-dangerous and non-toxic. Optical tweezers make a non-contact manipulation and measurement of tiny forces at the cellular level possible. Hence, optical tweezers has become a good tool in laboratories to study problems that were not possible to investigate earlier. Detailed information of optical light scattering in skin and other biological tissues is very important when developing simulation models and signal analysis methods. Hence, the basic interactions of light and cells need to be understood carefully. The system developed in the Optoelectronics and Measurement Techniques Laboratory allows the measurement of light scattering from single trapped particles and red blood cells (RBC). The aim of this visit is continue and strengthen our collaboration in practice. The optical tweezers system will be modified and improved during this visit to allow more exact measurements and more freely manipulation of the object orientation during measurements.