UNIVERSITY OF TROMSØ UiT

FACULTY OF HEALTH SCIENCES
DEPARTMENT OF MEDICAL BIOLOGY
VASCULAR BIOLOGY RESEARCH GROUP

To Whom It May Concern

Your reference:
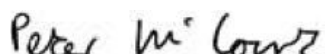Our reference:
Date: 01.08.19

Letter of Support for the fairSIM project

With this letter I give my full support to the fairSIM project.

By way of background, I was first introduced to Structured Illumination Microscopy (SIM) by Prof. Thomas Huser (UC Davis/Uni Bielefeld) in 2009, and I immediately understood the immense potential of SIM to rapidly advance the study of liver sinusoidal endothelial cells (LSEC). LSEC are heavily perforated with trans-cellular nano-pores (a.k.a. "fenestrations") essential for the filtration of plasma to and from the liver's hepatocytes. LSEC fenestrations have a diameter of 50-200 nm, and are thus below the optical diffraction limit, making them (previously) impossible to study live and in a "wet" state. Thanks to the introduction of SIM methodologies to our lab, the study LSEC fenestrations has become much more straightforward, and has markedly boosted our research output.

SIM imaging of LSEC fenestrations was one of the sparks that started the fairSIM project in Prof. Huser's the group. It pushes for the development of open-source SIM reconstruction software and bespoke SIM microscopes, which can easily be tailored to specific imaging tasks. In the case of LSEC, this will allow us to achieve higher throughputs and to implement advanced approaches of multi-modal imaging. I therefore support the fairSIM project which will further enhance my lab's ability to study LSEC fenestrations. The availability of this open-source SIM reconstruction software and resources will also enable a wider SIM user base, especially for those labs building their own custom-made SIM solutions.

Sincerely,

Peter McCourt
Associate Professor, UiT