|  |  |
| --- | --- |
| **ID** | 23 |
| **Lead Author** | Jaap Karsten |
| **Title** | A Smarter View on Photomicrography |
| **Problem Outline** | Actually, the proposal deals with two problems, the second problem is the more important one.   The first problem, the incentive to formulate this proposal, is the poor quality of pictures taken thru a microscope, that accompany clinical case presentations on Telemedicine (TM). These pictures, though taken thru a lot of effort and experimenting, may regrettably not so informative to allow for a sound medical opinion. Picture 1  That has less to do with the quality of the slide in itself, but simply reflects the way it is photographed.   The second problem is are how to improve quality of the way slides are prepared in the lab, difficulty of sharing unusual findings with experts and exchange of findings for second opinion or review (what would necessarily involve sending slides out of the country) If you take a picture with your smartphone thru the microscope in all the above situations, the quality of the picture may be too low to initiate a valuable answer or advice. |
| **Problem Solution** | While static image acquisition historically involved the use of a permanently mounted camera unit on a microscope, such cameras may be expensive, need to be connected to a computer, and often require proprietary software to acquire and process images.  A novel approach for capturing digital microscopic images is to use smartphones coupled with the eyepiece of a microscope. This solution is simple, innovative, adapted to the field and..verry a An adaptor of $10-80 may be all that is needed. Again a picture, taken thru the adapter The quality of the picture approaches to what is seen by the naked eye thru the eyepiece,  for the detection of trypanosomiasis (mobile HAT) a 1-2 seconds videoclip will suffice and is possible! This solution expects that a smartphone is available in the project can be used from time to time to take the pictures. The means for uploading pictures are already available within the TM platform. How to regularly upload pictures for non-clinical cases (laboratory purposes) still needs to be solved ( a service analog to the X-Ray service currently provided thru TM?). |
| **Criteria for Success** | 1. Telemedicine: positive feedback of experts on the presented slides 2. Laboratory: positive feedback of the lab. advisors on how they can assist the field labs with interpretation of unusual findings on slides, the quality of slides, and second opinion on moving objects on native slides, e.g. trypanosomisas. 3. Raise the quality of the results from using the microscope by quickly, even live, sharing findings 4. increase the fun of using the microscope by getting a quick response on your sometimes unexpected findings (are they just artifacts, or is this something new?) |
| **Patients/Programmes Benefits** | 1. interest in sharing microscopy results will increase with inherent improvement of quality of slides.  Better case management. Better use of possibilities of Telemedicine. 2. Set standards for the use of Telemedicine in low-resource settings 3. Improve the quality of microscopy in the field 4. Preparation of good quality slides for teaching purposes |
| **Timeline** | At HQ we plan to review two types of adapters: the robuster ones meant for Iphone, and the robuster universal ones. This will cost less than $200,= We choose the most appropriate one for our microscopes in the field, and see how easy it is to attach adapter, review the time it takes to get a good quality picture etc.  and what problems we may expect (and need to solve), build on the comments of some reviewers of these adapters. If one is outstanding in quality and ease of use, we take that one, make a small Youtube clip on the use. (1 month including the videoclip) Otherwise we pilot the best two in the field. (1 month) After that we ideally provide all projects that do microscopy with an adaptor. (three months).  Now, I would like to add a comment. If I go to the next question, opening the possibility to upload files and try to upload , the website returns with an error message, wiping clean the whole form :-(, this is the third time I fill in this form. So I try one more time, otherwise, if you see no files, please indicate how I can send the illustrating files separately!  Debbie Price (my line-manager) knows of this proposal and backs it. |
| **Cost** | Less than < 10.000 euro |
| **Collaborations** | Erwan Piriou and Charity Kamau, lab. adv. OCA Jarred Halton, TM-operator intersectional |