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Re: Endourology Society 2021 Summer Student Scholarship for Akhil Peta

March 24, 2022

Dear Michele:

On March 22, 2021 the Endourology Society selected Akhil Peta as a recipient of a 2021 Summer Student Scholarship and was awarded \$750. When we had received notification that the project was accepted, we submitted the IRB application in April 2021. We experienced significant institutional delays regarding the IRB and it was finally approved in March 2022.

In the meantime with the funds allocated by the Endourology society, Akhil was been able to create a proof of concept to demonstrate the functionality of the project. Using the funds, he purchased a Mac Mini computer for the UC Irvine Urology Lab. The computer was vital to the project as it runs the software (3D Slicer, Meshmixer, Unity, XCode, Vuforia) necessary to enable hard coding the patients CT scan onto the 3D marker needed for the project. In addition to the computer, the funds were also used to 3D print 3D marker cubes that work as an anchor for the patients CT scan, which is vital for the project. However, working through this project, it was made clear that the technology has shortcomings which make it difficult to visualize urolithiasis in real time in preparation for shockwave lithotripsy.

Attached to this email is a video of the software in use, with the 3D printed marker and a sample patient's CT to demonstrate that in fact it is possible to overlay a patients CT onto a marker and then onto a patient in the OR. However, you will also be able to see a lag and general instability of the 3D marker when moved around, which would make its use in the operating room challenging.

Given that Akhil has now graduated medical school and will be moving on to residency in New Jersey we have decided to withdraw the IRB and close the project. Certainly his work and the funds awarded to him were instrumental in providing a proof of concept and we hope to use a similar methodology in future projects.

Sincerely,

A handwritten signature in black ink that reads 'Roshan M. Patel'.

Roshan M. Patel, MD
Assistant Clinical Professor