Q1: I've used SimNIBS and haven't used ROAST yet. I'm wondering if it is possible to simulate high frequency tES such as tRNS?
Yes, as long as the frequency does not exceed 10kHz. As under 10kHz, the biological tissues can be treated as purely resistive, and one can use "quasi-static" approximation of the Maxwell equations, see Plonsey and Heppner,1967 for more details.

Q2: is that MNI coordinate system? (asked when I was talking about placing customized electrodes)
When placing customized electrode locations using roast(), you can only click around in the MRI to get voxel coordinates and use them for placing. But if you only have MNI coordinates of the customized electrode locations, you can still convert those MNI coordinates into voxel coordinates using the transform computed here (provided you have run segmentation for the subject in SPM).

Q3: we can specify current for the simulation but I dont think we can specify frequency of the current. so can I say that tDCS and tACS simulations for same electrode placement will give same output?
Yes. In addition to answers provided by Lucas in the tutorial, I want to add that tDCS and tACS are essentially the same in simulations, also see Q1.

Q4: what we should consider if we use the MRI imaging from the patient such as epilepsy with depth electrode?
You have to manually model the depth electrodes, i.e., manually segment the depth electrodes. See this paper and also Q8 for more details.

Q5: How to transform electric field maps from native space to MNI space for group level analysis?
To transform native voxel coordinates to MNI coordinates, you can simply use the *seg8.mat file output from SPM and something like this line in ROAST. To transform the electric field maps from native space to MNI space, you may have to register and then reslice the electric field. You can do this using "coreg" and "normalise" functions in SPM (however ROAST does not provide any interface for this, please refer to SPM documentations).

Q6: are pads always presumed to be rectangular?
Yes. The default size of the pad electrode is a rectangular of 50mm by 30mm by 3mm.

Q7: Hello. Can I have an arbitrary shape of electrode? e.g. an ellipse?
Unfortunately no. You can do disc, pad or ring electrodes.

Q8: Is it possible to import a mesh created outside of ROAST? can manual corrections be done to the segmentations?
Yes, but you have to manually stop ROAST function in the middle: to import a third-party mesh, you have to break ROAST in line 836 ; to manually correct the segmentation and import those manual segmentation back into ROAST, you have to break ROAST in line 811. Note these are just general advice, and to implement you may need to understand some of the code in ROAST and the data formats, which is not trivial. We will try to add these as new features in future releases.

Q9: Thanks for the great talk Andy! I was wondering if you could talk about how to interpret the vector information produced by ROAST? For example to compare current direction between subjects? How could I tell which direction current is flowing in with respect to the cortical surface, just from looking at the numerical outputs in 'ef_all'?
Yes the 'ef_all' is the electric field vector at each voxel, which tells you the exact direction of the current flow at each voxel.

Q10: One example of an error we received was that the segmentation incorrectly perceived the eyes, which created holes in the skull.
Can you please send me a screenshot of the segmentation mistakes so that I can infer what might have gone wrong in the segmentation processes?

Q11: sorry if i missed this, if we use a rubber electrode covered by a sponge, is this default or do we need to add the sponge?
You do not have to add the sponge. ROAST by default puts a “gel” layer beneath each electrode. In your case you may need to customize the conductivity values for “electrode” and “gel” using the “conductivity” option.

Q12: It would generate optimal montage out of which montages (regarding eilec size, shape, position, current, etc.)?
When you run roast_target(), all the candidate electrodes are disc electrodes with 6mm radius and 2mm thickness, placed at the locations in the 10-10 EEG system.

Q13: Does ROAST give you control over shape and mapping order of elements?
No, in ROAST the finite element is tetrahedron and users cannot change that.

Q14: Is pediatric modeling possible?
Yes.