

**From:** Will Hopkins [mailto:will@clear.net.nz]  
**Sent:** Friday, 17 June 2016 1:19 PM  
**To:** 'sports@science@yahoo.com'  
**Subject:** SAS for mixed-model workshop at ECSS conference, July 6

A browser-based version of the Statistical Analysis System (SAS), called SAS Studio, is now available as a free "University Edition". It has a point-and-click interface and cool graphics, but it also allows easy access to the script for development of sophisticated analyses. In my brief experience with it so far, I have decided that it is much better than R or SPSS, so it will be the focus of my workshop on mixed modeling at the forthcoming ECSS conference. I will also introduce attendees to the resources on SPSS already available at the Sports@science site <http://sports@science.org>, and I will provide some R script for the examples, but my aim will be to convince you to use SAS for mixed modeling and all your other analyses.

So, to get the most out of the workshop, **install SAS University Edition on your laptop**, and practice using it **before you come to conference**. This link:

[http://www.sas.com/en\\_us/software/university-edition.html](http://www.sas.com/en_us/software/university-edition.html)

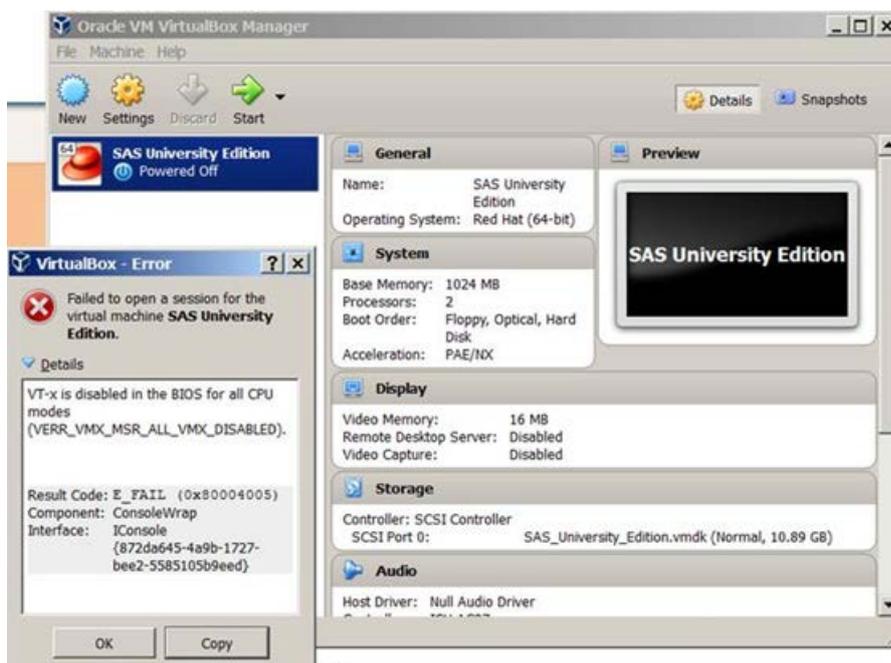
is where you start the installation process, which I am sorry to say is not easy. Choose the Direct Download option, not the Cloud option. You will find that you first have to install Oracle VirtualBox, which makes a virtual server on your laptop within which SAS installs and runs. Once you get it running, open this link

<http://support.sas.com/training/tutorial/studio/index.html>

in a new browser window rather than a tab, and work your way through the first video. Pause the video at each step, Alt-tab back to the window with SAS running, and reproduce the step. Then move on to the next two videos.

I will make a package of resources available for downloading from Sports@science and the ECSS site before the conference. Watch this space.

I experienced a system error when I first tried to "Start" SAS University Edition in VirtualBox. The error window stated "Failed to open a session for the virtual machine SAS University Edition. VT-x is disabled in the BIOS for all CPU modes...":

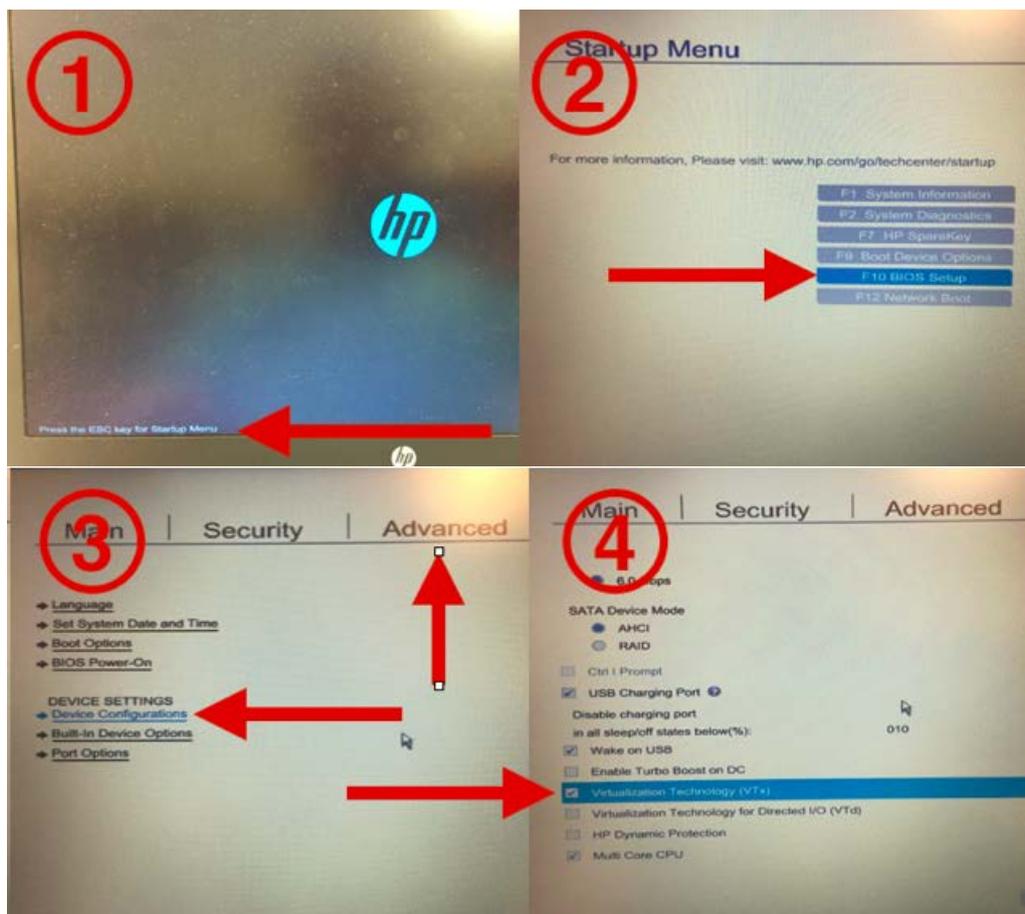


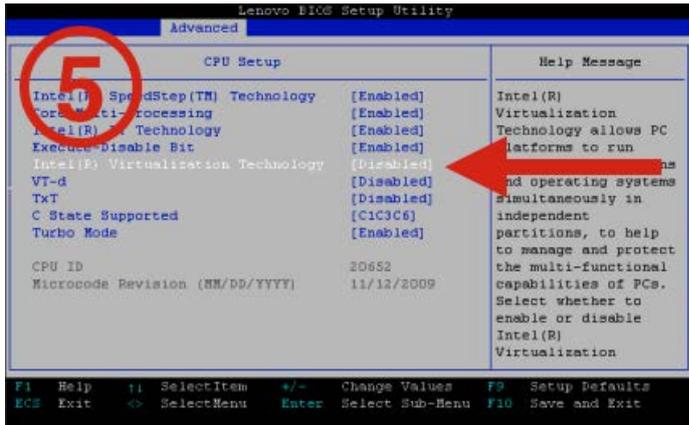
One of the PhDs at NIH in Oslo, Håvard Wiig, solved this problem for me. If you get the same problem, here is his fix:

You have to "enable vt-x" (visualization technology) in the PC's BIOS/Startup Menu. Every PC brand has their own version of BIOS, and therefore it is difficult to make a single specific guide. The easiest way is probably to Google "enable vt-x [insert PC brand]", for example: "enable vt-x Lenovo". A general guide could be:

- \* Restart the PC
- \* On startup, press and hold F12 to enter BIOS/Startup Menu (on some PC brands press ESC, F1, F3 or F10. It's usually described with a sentence in the left, lower corner on startup [see picture 1 below])
- \* In BIOS settings, use the arrow keys to navigate to the "Advanced" tab [picture 3].
- \* Search for "Virtualization Technology (VT-X)" in the menu [picture 4]. It could also be in a sub-menu; for example, on my HP PC it was under "Device configuration" [picture 3].
- \* Some PCs have checkboxes [picture 4], others you have to toggle enabled/disabled using Enter [picture 5].

It seems to be an issue for PCs with INTEL processors, as PCs with AMD processors have this enabled by default. Mac/Linux users should have no problems.





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Be creative: break rules.