

Instructions for connecting Raspberry Pi (Rasbian) to Wireless

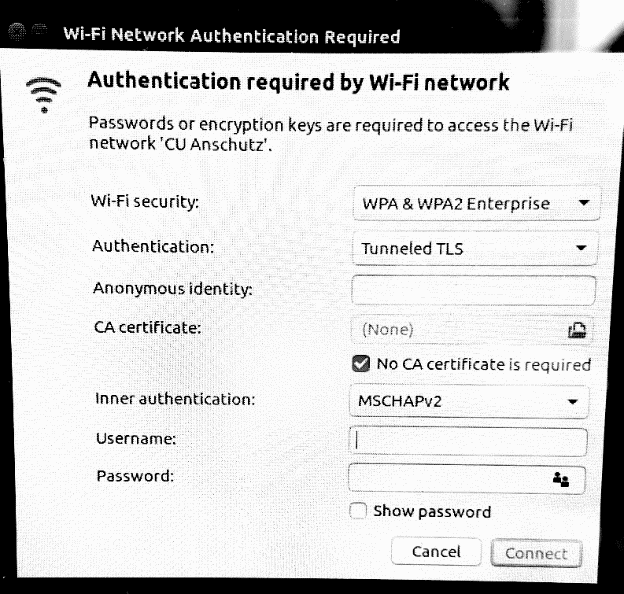
Probably applicable to different Linux Distributions

Here are details in connecting a Raspberry Pi V3 running Rasbian to both Wireless Networks (guest and with the sign in) here at Anschutz. It is assumed that these instructs will be similar with other distributions of Linux (but connecting an Ubuntu was quite straightforward, see below). Many thanks to Christian Rickert for assistance with this.

Ubuntu:

CU Anschutz Guest is straightforward. Use the graphical interface to connect (top right corner), open a web browser, which will auto direct to the Connec/ “Accept our terms” page, and click accept.

CU Anschutz isn’t much harder. Use the graphical interface to connect (top right corner). A window will pop up allowing you to input the following settings (update Username with your full email address and Password with your password):



Raspbian:

You can (probably) connect directly to the UC Anschutz Guest network directly, but Linux will not take you to the required Connect / “Accept our terms” page so you will not be able to access anything. Use the graphical interface to connect to UCAnshutz Guest (top right corner) and then open your favorite web browser and hit up: <https://ucdenver-wireless.ucdenver.edu/login.html> and click accept. Book mark the site for ease with future connections.

For the more stable UC Anschutz wireless:

In the terminal:

#Do an update, why not (obviously only when connected to internet (try UC Anschutz Guest as above)):

sudo apt-get update

#This next step is only necessary if you are on a public machine, but it’s a good idea anyhow: Create a hash password (replace YOUR\_REAL\_PASSWORD with, well, your password) (note the utf16le is numbers ‘16’ followed by letters ‘le’).

sudo echo -n 'YOUR\_REAL\_PASSWORD' | iconv -t utf16le | openssl md4 > hash.txt

# Open the file to view the file to view and copy the hash password (select the long hash code, ctrl shift c to copy). Exit with ctrl x.

sudo nano hash.txt

#Delete the hash.txt file, if you want. It doesn’t store your original password, but keep a clean system

sudo rm hash.txt

#Edit your wireless config file:

sudo nano /etc/wpa\_supplicant/wpa\_supplicant.conf

#There should be some lines on top. You can replace country with US if you’d like but it’s not necessary.

country=US

#If you connected to UC Anschutz Guest, you should see that already. Do nothing here.

network={

        ssid="CU Anschutz Guest"

        key\_mgmt=NONE

}

#Add the UC Anschutz wireless by adding this below (update your email and password). By setting priority to 1, it will attempt to connect to this before other networks. Higher priority numbers are attempted first. Defaults to zero.):

network={

        ssid="CU Anschutz"

        key\_mgmt=WPA-EAP

        eap=PEAP

        identity="firstname.lastname@ucdenver.edu”

        password=hash:PasteTheHashPasswordHere

        #ca\_cert="/etc/cert/ca.pem"

        phase2="auth=MSCHAPV2"

priority=1

}

#save the file with ctrl x, Y, enter

#leave no trace

history -w  
history -c

clear

#reboot

sudo reboot

References and further information (accessed 5/13/2017). Note that the code in the links is helpful but contains typos and other unnecessary steps result in walk throughs that when directly followed, will not work:

<https://www.raspberrypi.org/forums/viewtopic.php?f=36&t=111100>

<https://netbeez.net/2014/10/14/connect-your-raspberry-pi-to-wireless-enterprise-environments-with-wpa-supplicant/>

<http://www.cs.upc.edu/lclsi/Manuales/wireless/files/wpa_supplicant.conf>

Again, thanks to Christian Rickert.

**Please** acknowledge our facility in your publications. An appropriate wording would be:  
  
"Engineering support was provided by the Optogenetics and Neural Engineering Core at the University of Colorado Anschutz Medical Campus, funded in part by the *National Institute for Neurological Disorders and Stroke* of the National Institutes of Health under award number P30NS048154."