



**DIGI**TRANS

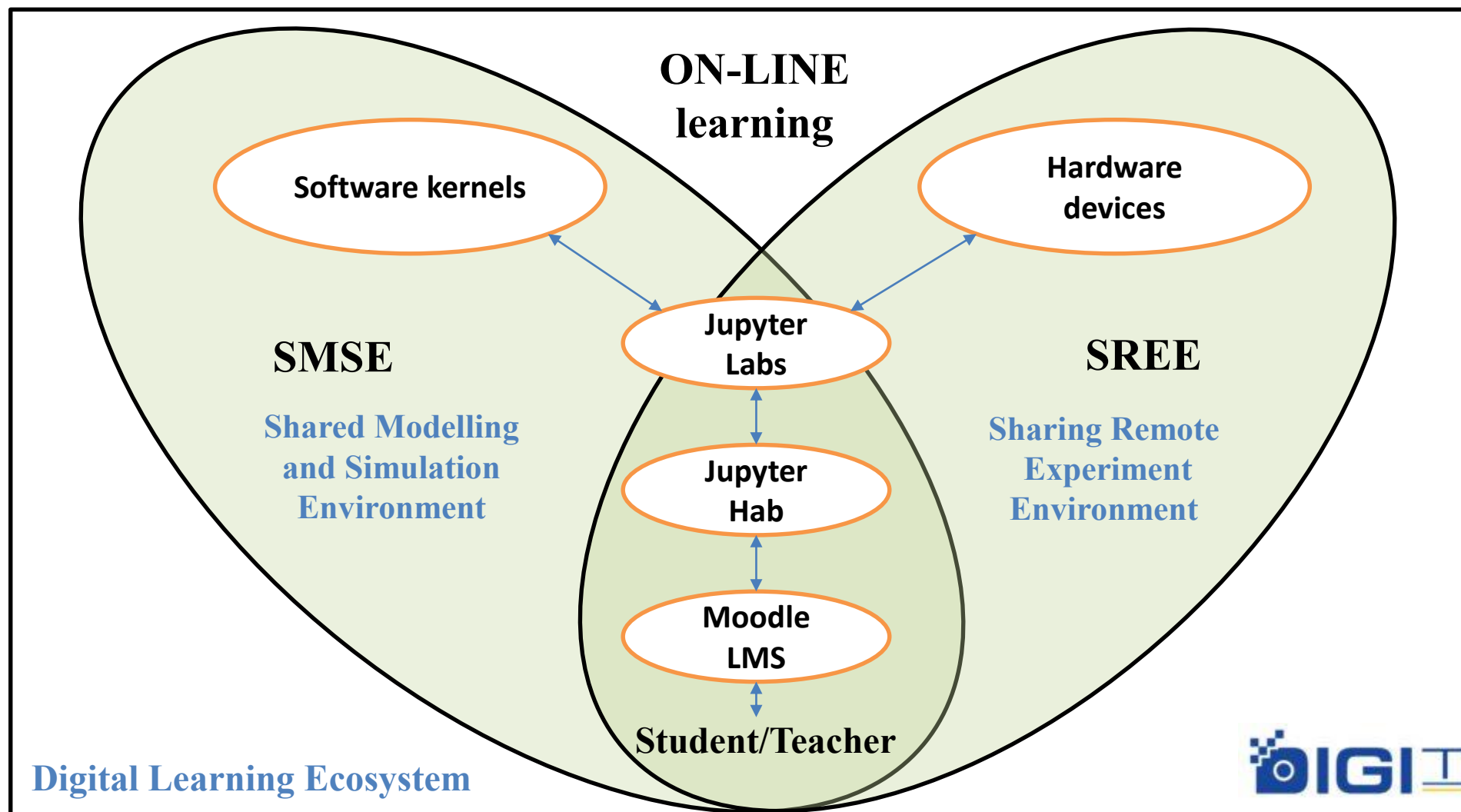
# Sharing Remote Experiment Environment (SREE)



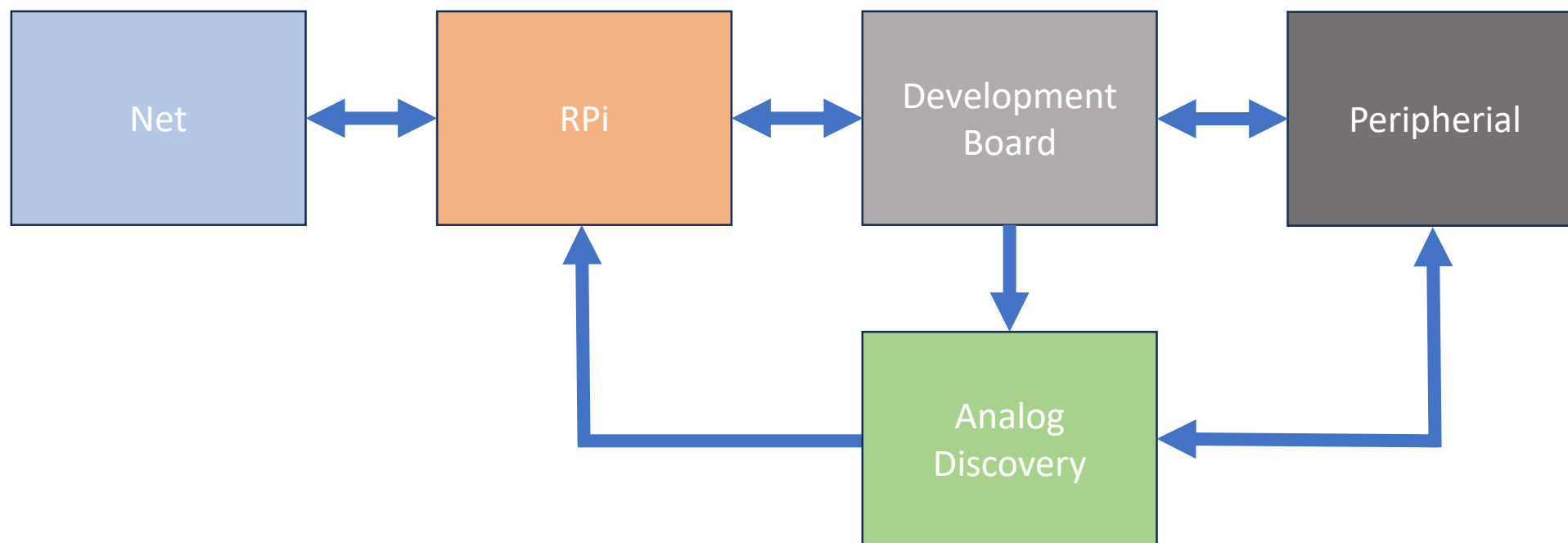
**Sergii Ivanets**

Head of Educational-Scientific Institute Of  
Electronic And Information Technologies  
[Sergey.Ivanets@gmail.com](mailto:Sergey.Ivanets@gmail.com)

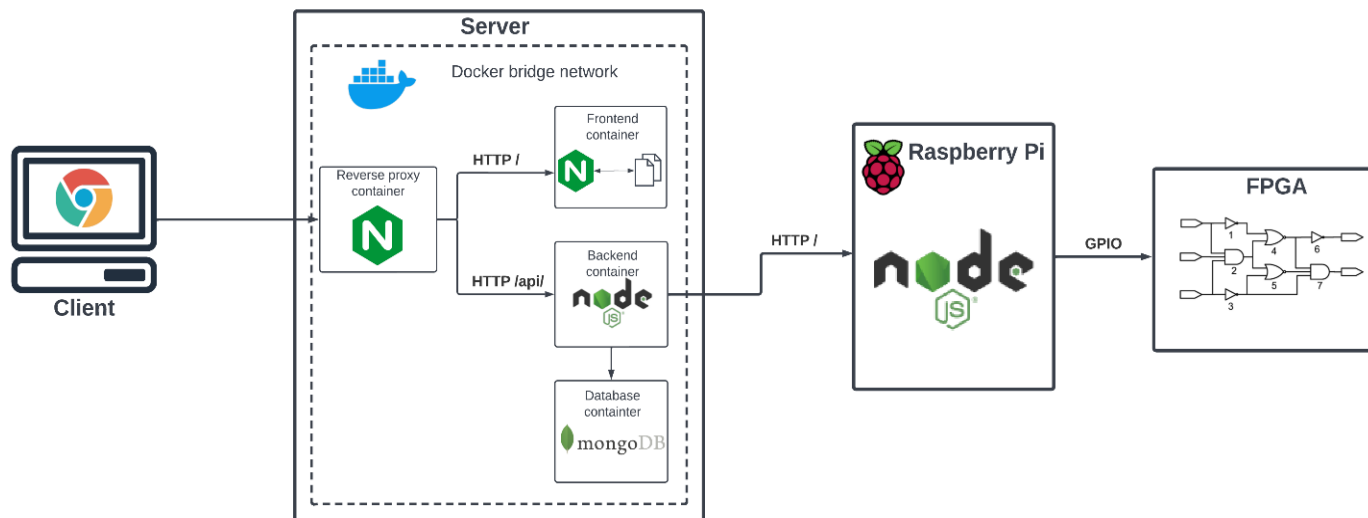




# Structure of SREE



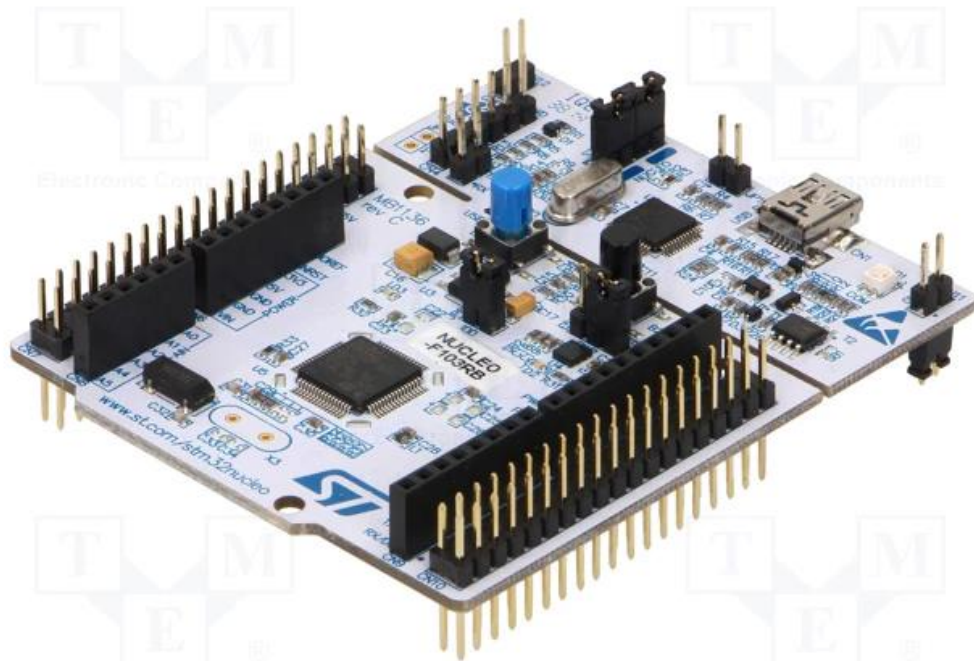
# Embedded & FPGA remote labs





# Microcontroller development board

NUCLEO-F103RB  
ST Microelectronics

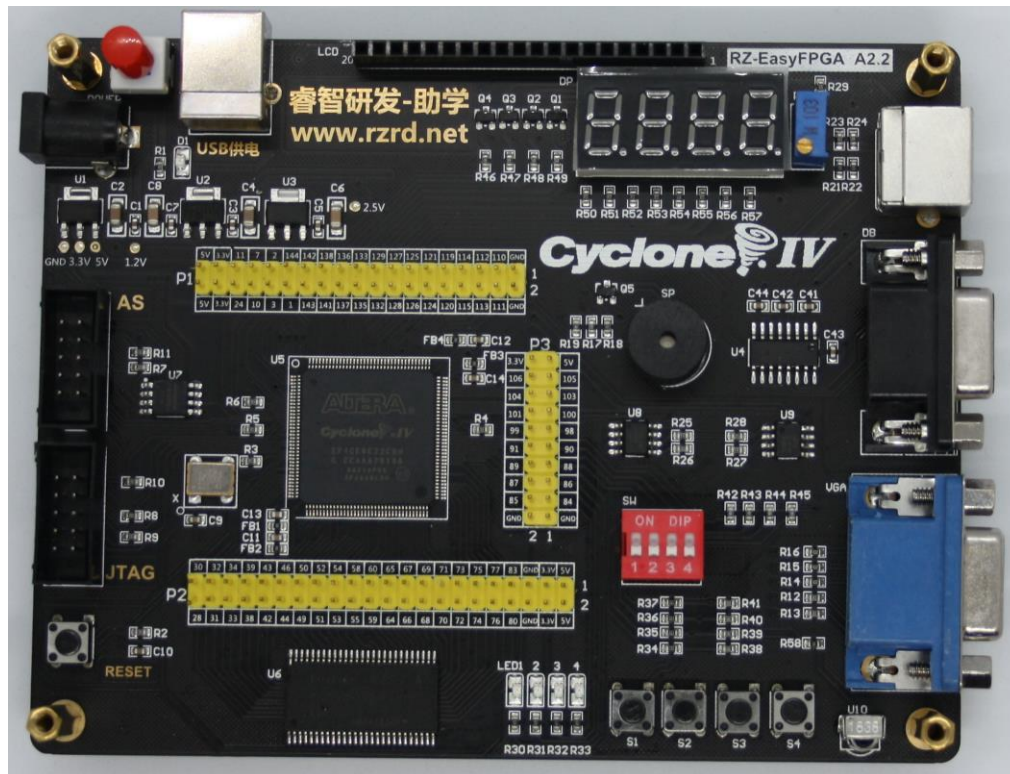


STM32F3DISCOVERY  
ST Microelectronics

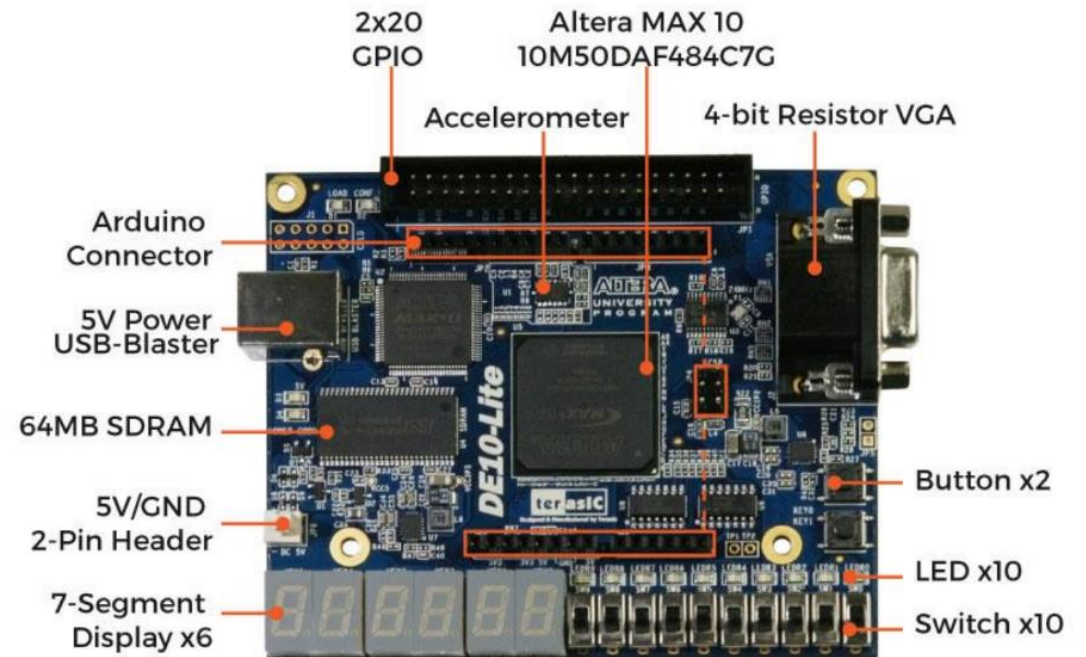


# FPGA board

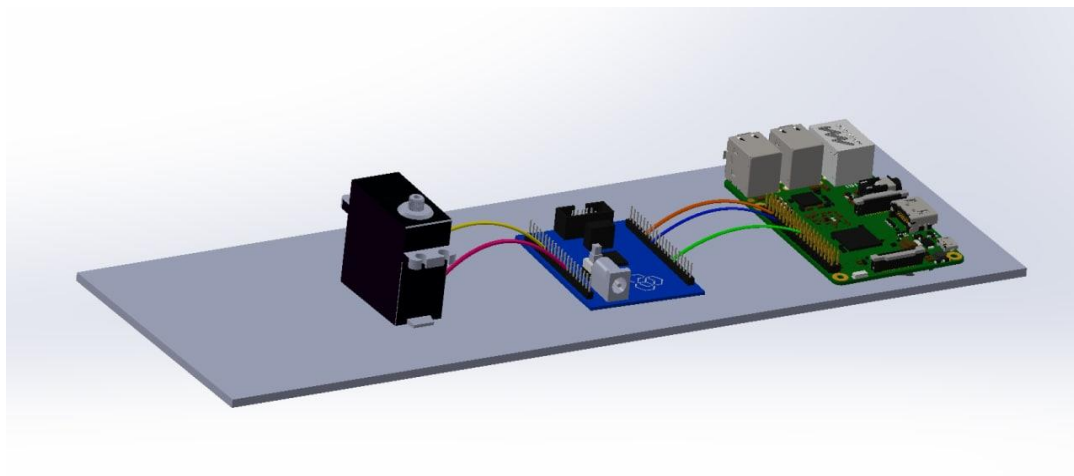
## Intel/Altera FPGA - Cyclone IV: OMDAZZ, RZRD



## Intel/Altera FPGA - MAX 10: Terasic DE10-Lite



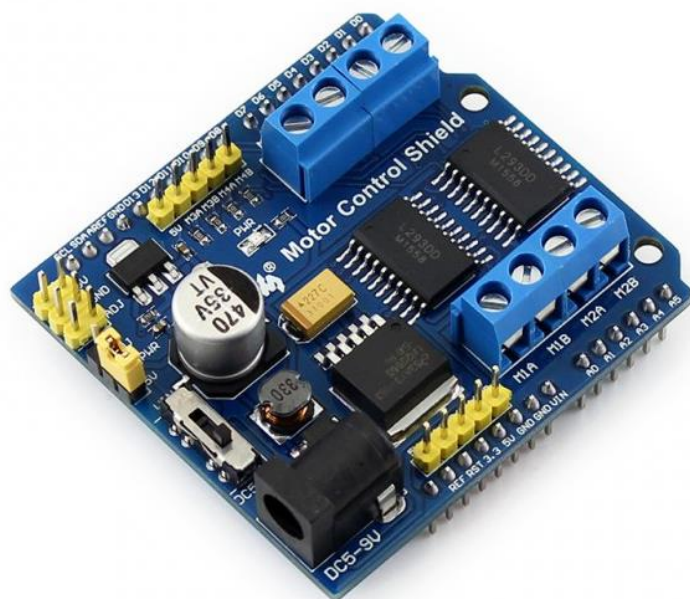
# Laboratory hardware construction for training



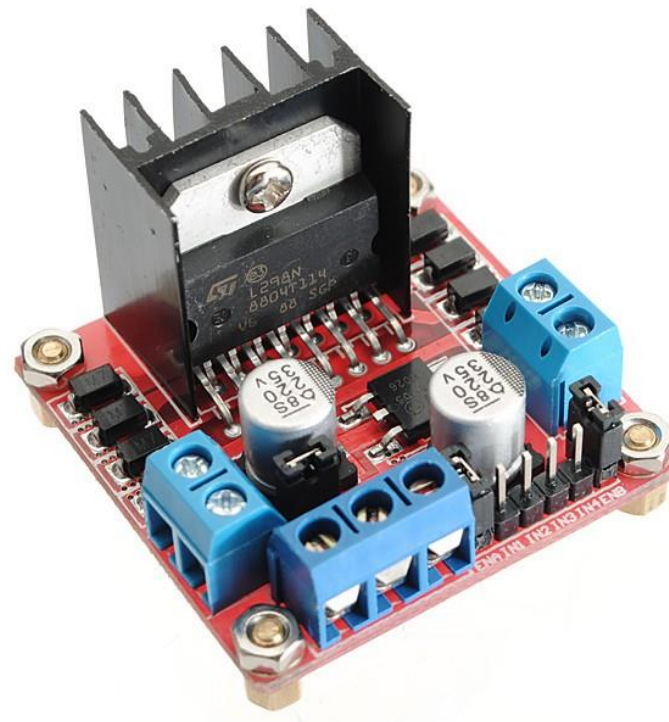


# Motor Driver Controller Board

L293D DC Motor Driver Module



L298N Motor Driver Controller Board





# Experiment with Power Converter remote lab

Time left: 00:08:40

### DC-DC Buck Converter - Schematic Diagramm



### Experiment recommendations

1. Set Manual PWM mode.
2. Set desired  $C_F$  and  $R_{Load}$  values.
3. Set initial value of PWM duty cycle.
4. Add point to "Output voltage vs PWM" chart.
5. Increase the level of PWM duty cycle.
6. Repeat 4 and 5 until PWM duty cycle is 100%.
7. Save "Output voltage vs PWM" chart.

### Oscilloscope



Pause      Save Waveform

### Output Voltage vs PWM



Point: PWM=40, VOut=3.8

Add Point      Save Chart      Reset Chart