Ionization
Saturation
Recomb.
Drift
Diffusion

$$dE/dx\,(MeV/cm) \;\rightarrow\; Q\,(fC) \;\rightarrow\; Q_{APA}(fC)$$

Field Effect
Induction
Wire
capacitance

$$I_{APA}(fC/\mu\mathrm{sec}) \;\rightarrow\; I_{wire}(fC/\mu\mathrm{sec}) \;\rightarrow\; I_{gate}(fC/\mu\mathrm{sec})$$

Gain/Shape
ADC
calibration

$$\rightarrow\; V_{ADC}(t) \;\rightarrow\; ADC(t_i)$$