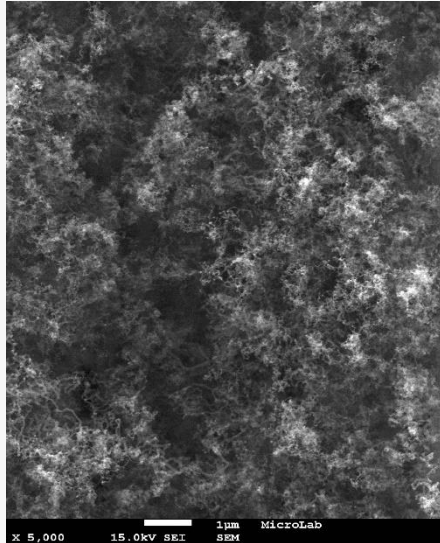




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# Electric Field Controlled Flame Synthesis of Carbon Nanotubes



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# Motivation and Context

## Requirements for CNT Synthesis:

1. Carbon Precursor
2. High Temperature (900-1300K)
3. Catalyst



Fig. 1- Flame synthesis experimental setup.

## Methods for CNT Synthesis:

- Arc Discharge
  - Chemical Vapour Deposition
  - Laser Ablation
  - Flame Synthesis
- Require an external source of energy. Expensive processes!
- Provides all the necessary elements for CNT deposition while at a much lower cost. Also allows for mass production.
  - Appropriate conditions can achieve relatively high quality CNTs.



# Objectives

With the application of an electric field the main objectives of this work are:

- Produce straighter and more uniform CNTs.
- Improve the quantity of CNT yielded, translated by the mass deposited on the substrate.

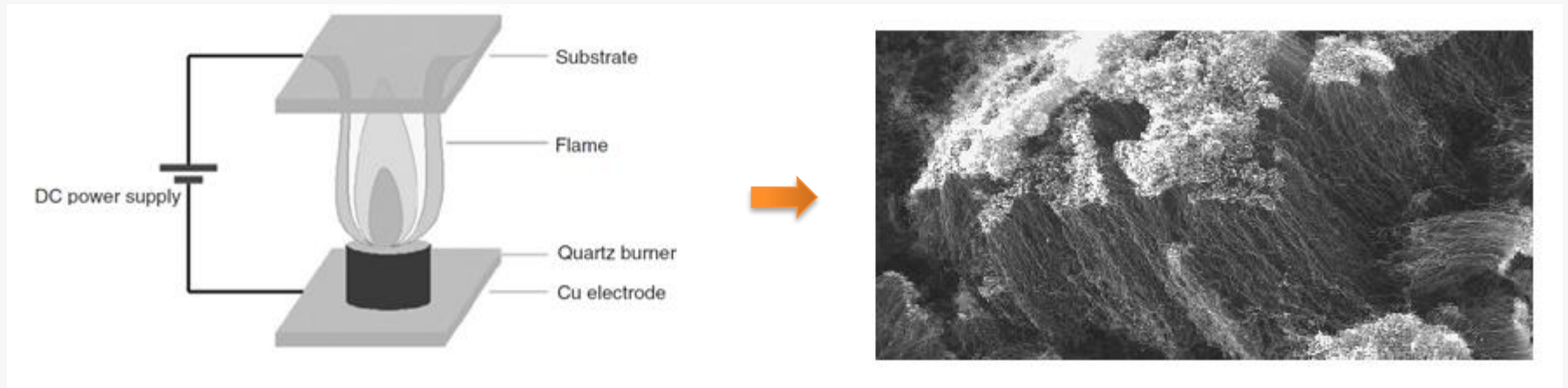


Fig. 2- Electric field application and desired effect on CNT.