

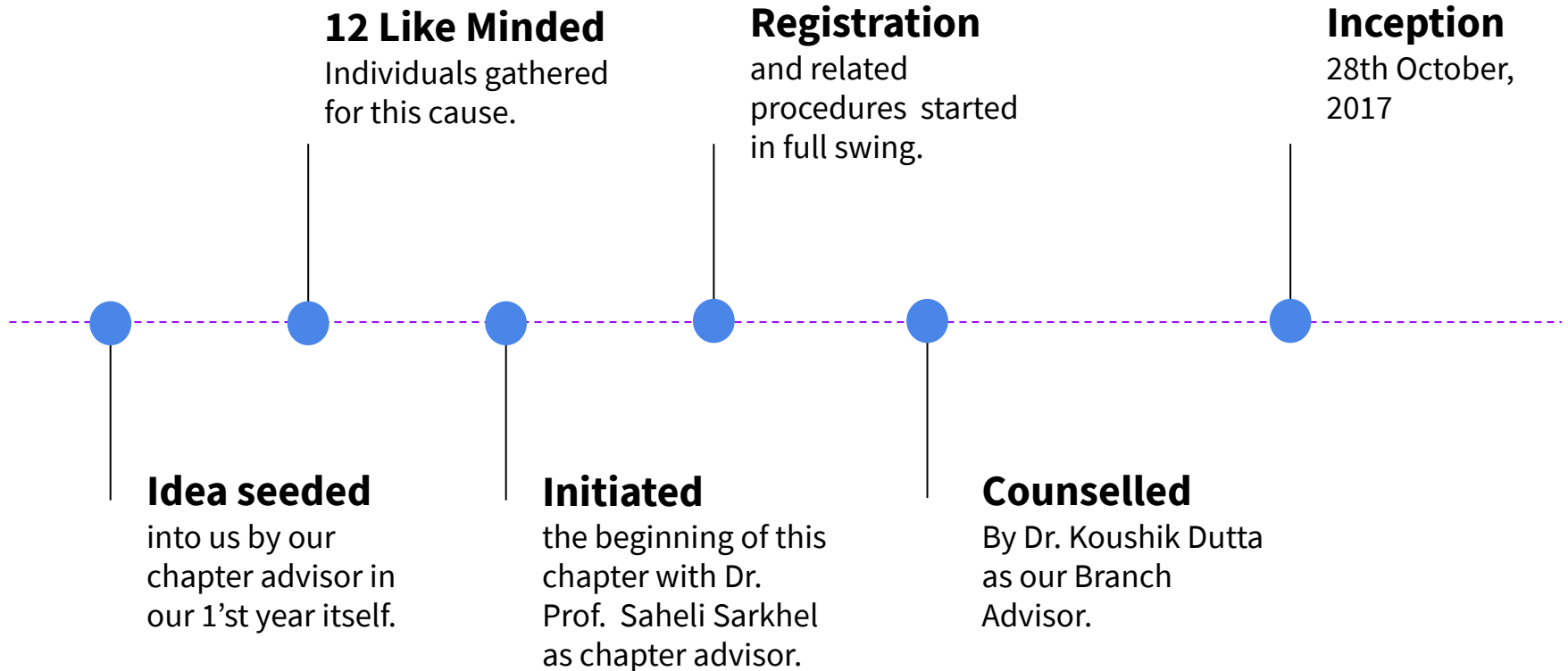
ED NETAJI SUBHASH ENGINEERING COLLEGE

(SBC 15115H)

IEEE EDS Student Branch Chapter, NSEC

One day hands-on workshop on Embedded Systems and Case
Studies

When It All Started?





**Started with 12! Now
24**

Our Mission



**Learn and
grow**

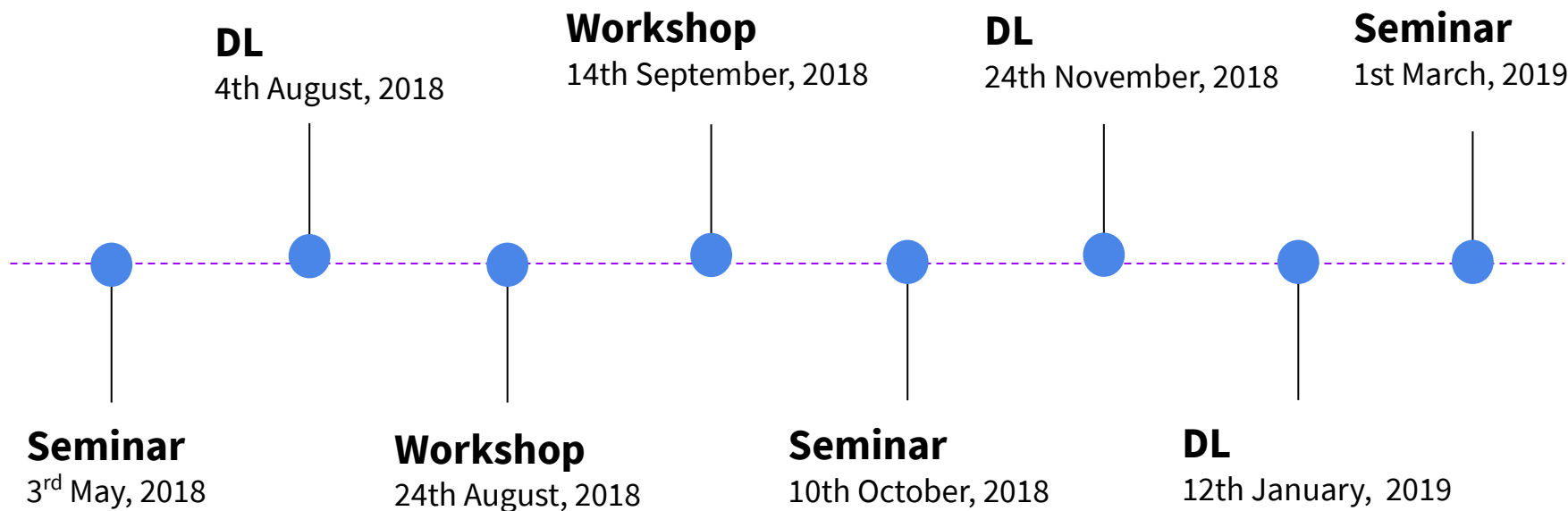
**Get inspired
and Inspire**

Build to lead

Promote Engineering
(Promote Electronics Engineering)

Seminars, DLs and Workshops Timeline

(April 18- March 19)



What You Will Learn?

- 1) Arduino - What? Why? When? How?
- 2) Sensors
- 3) Actuators

Multi Task with Arduino

Ditch the `delay()`

- 1) Delay is simple and straightforward.
- 2) Delay is a "busy wait" that monopolizes the processor.
- 3) During a `delay()` call, you can't respond to inputs, you can't process any data and you can't change any outputs.
- 4) The `delay()` ties up 100% of the processor.

millis() It Is!

Returns the number of milliseconds passed since the Arduino board began running the current program. This number will overflow (go back to zero), after approximately 50 days.

○○○

```
unsigned long time;

void setup() {
  Serial.begin(9600);
}
void loop() {
  Serial.print("Time: ");
  time = millis();

  Serial.println(time); //prints time since program started
  delay(1000);           // wait a second so as not to send massive amounts of data
}
```


GY-521 (MPU 6050)

What do you get in this breakout board?

- 1) Gyroscope (3-axis)
- 2) Accelerometer (3-axis)
- 3) Temperature Sensor
- 4) Digital Motion Processor (DMP)

Breakout Pinout!

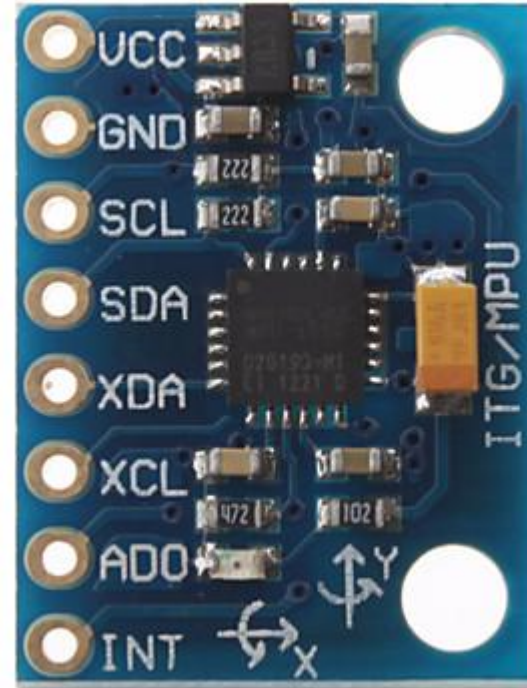
Pins used for I2C communication protocol and part of I2C serial bus:

SCL -> Serial Clock Line

SDA -> Serial Data Line

AD0 -> If LOW { Addr = 0x68 }

INT -> If HIGH { Addr = 0x69 }



Documentation

[MPU-6050 Product Specification](#)

[MPU-6050 Register Map and Descriptions](#)

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