**Abbreviations:**

DLC – Diamond Like Carbon

HDLC – Hydrogenated Diamond Like Carbon

HD - Hydrogenated Diamond

ND - NanoDiamond

NCD – Nano-Crystalline Diamond

UNCD – Ultra Nano-crystalline Diamond

a-C - Amorphous carbon

a-C:H - Hydrogenated amorphous carbon

N-UNCD – Nitrogen-incorporated ultrananocrystalline diamond

B-NCD- Boron-doped NCD

SCCM – Standard Cubic Centimeter per minute

MFC – Mass flow controller

CVD – Chemical Vapor Deposition

PECVD - Plasma Enhanced Chemical Vapor Deposition

MPCVD – Microwave Plasma Chemical Vapor Deposition

MPACVD – Microwave Plasma Assisted Chemical Vapor Deposition

HFCVD – Hot Filament Chemical Vapor Deposition

HOPG – Highly Oriented Pyrolytic Graphite

S.S – Stainless Steel

RT – Room Temperature
BEN – Biased Enhanced Nucleation
BEG – Biased Enhanced Growth
RF – Radio Frequency
RH- Relative Humidity
COF-Coefficient of friction
TCR - Temperature Coefficient of Resistivity
TEC-Thermal Expansion Coefficient
RMS - Root Mean Square
mRS – micro-Raman Spectroscopy
HRTEM - High Resolution Transmission Electron Microscope
AFM - Atomic Force Microscope
STM - Scanning Tunneling Microscope
SEM - Scanning Electron Microscope
XPS – X-ray Photoelectron Spectroscopy
XANES - X-ray absorption near-edge spectroscopy
ESCA - Electron Spectroscopy for Chemical Analysis
SIMS – Secondary Ionization Mass Spectroscopy
Vac FTIR – Vacuum Fourier Transform Infra-red
UV-Vis – Ultra Violet Visible
IBA – Ion Beam Analysis
NRA – Nuclear Reaction Analysis
RBS – Rutherford Back Scattering

ERDA - Elastic Recoil Detection Analysis

EELS- Electron Energy Loss Spectroscopy

NMR - Nuclear Magnetic Resonance

NEMS / MEMS – Nano-Electro Mechanical System/ Micro-Electro Mechanical System

SET – Single Electron Transistor

CB - Coulomb blockade

TB - Tunneling barrier

2-D - Two Dimension