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**Date:**

**(Ashwini Kumar Mishra)**

***Dedicated***  
***To***  
***My Family and***  
***My Supervisors***

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## LIST OF ABBREVIATIONS

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<b>Abbreviation</b>	<b>Details</b>
EGFET	Extended Gate Field Effect Transistor
FETs	Field-effect transistors
MOSFET	Metal oxide semiconductor field-effect transistor
TFT	Thin film transistor
HRTEM	High Resolution Transmission Electron Microscopy
STEM	Scanning Transmission Electron Microscopy
HAADF	High Angle Annular dark field
XPS	X-Ray Photo -Electron Spectroscopy
CuO NWs	Copper Oxide Nanowires
GNP	Gold Nano Particle
FAD	Flavin Adenine Dinucleotide
CB	Conduction Band
UA	Uric Acid
AA	Ascorbic Acid
DA	Dopamine
ISFET	Ion Sensing Field Effect Transistor
MWCNT	Multi Wall Carbon Nano Tube
pH	Power of Hydrogen
DI	Deionized
FESEM	Field Effect Scanning Electron Microscopy
CuOOH	Copper Oxyhydroxide
PBS	Phosphate Buffer Saline
HMTA	Hexa-Mythel Tetramine
NPs	Nanoparticles
SEM	Scanning electron microscopy
EDX or EDS	Energy dispersive X-ray spectroscopy
TEM	Transmission electron microscopy

SAED	Selected area electron diffraction
XRD	X-ray diffraction
CV	Cyclic voltammetry
SMU	Source and measuring unit
CNT	Carbon Nanotube
Ar	Argon Gas
ZnO	Zinc Oxide
QDs	Quantum Dots
Au	Gold
Ag	Silver
AgCl	Silver Chloride
FTO	Fluorine-doped tin oxide
DL	Detection limit
H <sub>2</sub>	Hydrogen gas
EG	Extended Gate

## LIST OF SYMBOLS

Symbol	Details
$\lambda$	Wavelength
$\theta$	Half Diffraction angle
$GO_x$	Glucose Oxidase
$n$	Order of the diffraction, $\lambda$ is wavelength of the rays,
$d$	Inter-Planar spacing of the diffracting planes,
$CV$	Cyclic Voltammeter
$It$	Current-time
$Rt$	Resistance-time
$e$	Charge of electron
$R^2$	Correlation coefficient
$V_{GS}$	Gate to source voltage
$V_{DS}$	Drain to source voltage
$I_D$	Drain current
$\mu A$	Micro Ampere
$V_{th}$	Threshold voltage
$I_{ON}$	On current (drain)
$SS$	Subthreshold Swing
$W$	Channel width of transistor
$Pt$	Platinum
$q$	Charge of electron
$^\circ$	Degree
$\sim$	Approximately equal to