**NEW YORK CITY COLLEGE OF TECHNOLOGY**

**THE CITY UNIVERSITY OF NEW YORK**

Generation of THZ

ELECTRICAL AND TELECOMMUNICATIONS ENGINEERING TECHNOLOGY DEPARTMENT

Presentation by: Professor Ummy

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In Prof. Ummy’s introduction, he exploits the unique advantages of terahertz (THZ) radiation. Utilizing the relatively unexplored terahertz section of the electromagnetic spectrum, engineers are creating imaging and sensing technologies that holds tremendous potential in biomedical imaging, genetics diagnostics, and microelectronics.

Engineers are enticed to the elusive section of the electromagnetic spectrum. Which is positioned between infrared and microwave bands, because of the greater advantages that terahertz radiation has over conventional biomedical imaging such as X-ray radiation. Terahertz radiation has low photon energy pedigree which allows imaging of biological tissues without the harmful effects of X-ray radiation.

Furthermore, Terahertz radiation peak potential lies in genetic diagnostics, Terahertz radiation immense improvement in the detection of breast cancer through shaper images. Prof. Ummy states annually more than a million biopsies of breast tissues are required to compensate for inaccuracy utilizing current method of x-ray radiation. Breaking developments in terahertz radiation is also allowing the detection of breast tumors.

In summation, Prof. Ummy is currently in researching with contribution from City College and New York University professors on creating a mechanism that enables in exploding terahertz radiations endless potential. This presentation has allowed me to see the potential beyond just a transmission rate in data communication.