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TECHNOLOGICAL DEVELOPMENT – STED 2022**

**THE BOOK OF ABSTRACTS**

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# **X INTERNATIONAL CONFERENCE ON SOCIAL AND TECHNOLOGICAL DEVELOPMENT**

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## APPLICATIONS OF CONDUCTIVE POLYMERS IN MODERN TECHNOLOGIES

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### ABSTRACT

Polymers are the subject of intensive research and development, not only in science but also in industry. In the last few years, many studies have been conducted on conjugated polymers, and this study of polymers has revealed their morphological characteristics and their unique electrochemical properties, which has attracted many researchers from different fields to use their versatility as a tool for technological progress. The intensive field of research is covered by the synthesis, characterization and application of the most well-known conductive polymers, such as polyaniline (PANI), polypyrrole (PPy), poly(3,4-ethylenedioxythiophene) (PEDOT), polythiophene (PTh), poly(3-hexylthiophene) (P3HT), diamionaphthalene (DAN) and their derivatives. The field of application of conductive polymers is expanding its boundaries, so research continues towards very interesting applications, such as: sensors, supercapacitors, mechanically strong but very light fibers for wearable electronic devices (electronic devices that can be worn on the body as implants or details), electrodes for touch screens, optoelectronic devices, photocells, Li-ion batteries, lasers, organic light emitting diodes (OLEDs), etc. Continuous progress in the application domain of conductive polymers continues to this day.

**Keywords:** conductive polymers, optoelectronic devices, sensors.