## Reg. No: 2019/35/D/HS4/02942; Principal Investigator: dr Natalia Sypion-Dutkowska

Crime is an important social problem in the modern world. There is a lot of interest in serious crime - murders, rapes, kidnappings, human trafficking, acts of terror, financial fraud and gang activity. However, they are relatively rare, and daily, most of us come across common crime - theft of property and cars, burglaries into homes and stores, property damage, possibly fights, and battery. Common crimes are concentrated in cities, but they are unevenly distributed. They form clusters, called *hot spots*, and areas free from their occurrence, called *cold spots*. As a result, some urban districts and settlements are considered as safe and others as dangerous, which affects their attractiveness and property prices. Numerous concepts explaining such diversity have been developed as a result of numerous studies of urban crime. One of them, derived from sociology, emphasizes the impact of criminogenic features (e.g. age, wealth, education, social status) of the inhabitants of a given social area on the occurrence of hot spots of certain types of crime. Another, derived from criminology, emphasizes the importance of spatial determinants in the form of objects and forms of development (e.g. alcohol outlets, clubs and discos, municipal housing) attracting criminals and contributing to the formation of hot spots and other facilities (e.g. cemeteries, green areas, allotment gardens) distracting criminals and causing cold spots. None of these concepts fully explain the spatial diversity of common crimes in a big city, such as Szczecin.

In the research project "Spatial diversity of common crime in a big city as an effect of the cumulative influence of social areas and spatial determinants", an attempt is made to synthesize both research approaches. Using GIS tools, hot spots and cold spots will be designated for 10 types of common crime, registered by the Police with accuracy to the address point in the years 2015-17 in a total of 29 784. Based on a statistical analysis of data for 37 urban districts, homogeneous social areas will be determined and intensity of particular types of crime. For each of the spatial determinants, five attracting and five distracting crimes, they will be determined using GIS tools, their direct impact zones with a range of 200 m, which results from previously conducted research. Crime intensity rates will also be defined for these zones. By imposing digital maps of hot spots and cold spots, maps of social areas and maps of zones of the impact of spatial determinants, it will be possible to determine the interaction of social areas and spatial determinants on the occurrence of hot spots and cold spots of individual types of common crime in Szczecin. It will be necessary to use advanced statistical methods and specialized GIS tools. Thanks to this, it will be possible to answer, for example, the question of whether a disco located in a "quiet" area just as much attracts fights and battery as a disco located in a "suspect" urban district. A similar question may relate to the distracting impact of green areas located in urban districts with varying levels of residents' characteristics conducive to committing crimes.