From IMAGING TO EXCAVATION: ARCHAEOGEOPHYSICAL INVESTIGATIONS WITHIN THE WARSAW GHETTO

*Alastair McClymont, BGC Engineering, Calgary, AB, CANADA*

*Paul Bauman, BGC Engineering, Calgary, AB, CANADA*

*Jacek Konik, Warsaw Ghetto Museum, Warsaw, POLAND*

*Philip Reeder, Duquesne University, Pittsburgh, PA, USA*

*Harry Jol, University of Wisconsin Eau Claire, Eau Claire, WI, USA*

The 1943 Warsaw Ghetto Uprising has been studied extensively through archival material, including literary sources, photographs and eyewitness testimony. Unfortunately, most of the original ghetto neighbourhood was destroyed and built over during post-war reconstruction, making it difficult to contextualize where and how events took place. However, some of the original underground infrastructure of the ghetto still remains in areas that were not destroyed by construction activities. These sites include under the present-day Krasinskich Park, which was expanded to cover some of the demolished ghetto buildings, and Mila 18, which was left as a monument and small park to remember the resistance fighters who died during the uprising. Since the end of World War 2, nearly 80 years ago, few archaeological excavations have been undertaken to document what remains of the original ghetto buildings and other infrastructure. In 2019 we began geophysical investigations at the Mila 18 site and later, in 2021, at Krasinskich Park to map subsurface structures. At Mila 18, a combination of drone-based multispectral imaging, ground-penetrating radar (GPR), electrical resistivity tomography (ERT), and a handheld lidar device were used to locate buried walls, image voids associated with basement rooms, and map the still-preserved brick canal systems, in the area of what was an underground bunker used by resistance fighters. At Krasinskich Park, ERT, GPR, and EM61 metal detection surveys helped determine that the remains of ghetto buildings were still present beneath the park. Based on these results, we obtained permits to conduct excavations at both these sites, and excavations were undertaken at Krasinskich Park in 2021, and Mila 18 in 2022. To better document the excavations, new tablet-based lidar and photogrammetric scanning technology was used, enabling virtual- and augmented-reality models to be produced for research and educational purposes. Both excavation sites yielded important artefacts associated with the ghetto period, including ammunition shells, Jewish prayer books, jewelry, and a silver pendant with a Hebrew inscription that names Jewish individuals with links to ghetto inhabitants. These artefacts are being curated by the Warsaw Ghetto Museum and will be used to further understanding of the history of the Warsaw Ghetto.

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