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# Preliminary data on the frescoes from Novgorod

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## Résumé

This paper presents the first analytical data obtained by using a pXRF on the fragments of stunning Russian-Byzantine frescoes recovered from an excavation at Veliky Novgorod, one of the oldest cities in Russia and UNESCO World site. The archaeologists of the Institute of Archaeology of the Russian Academy of Sciences have been working on the architectural excavation at Novgorod for over 20 years and in the last 7 years fragments of frescoes have been unearthed during the excavation of the church of St. George in the Yuriev Princely Monastery (built in 1119). In the layers of the 12th century AD a large number of fragments of wall paintings from the church was found. A further interesting detail is that the paintings showed graffiti inscriptions recording deaths and the circumstances of death of persons that are mentioned in the chronicles of the time. The frescoes are highly interesting and extremely important for the reconstruction of the history of the time.

A number of samples, subdivided by significance and color and grouped accordingly are first autoptically examined, then studied by digital microscopy directly in the storage rooms at the excavation site. The scope is that of recognizing possible typical details, such as lines or ridges, indicating the working days of the artists, and layers of colors, that might help understanding the working habits of the painters. For the first screening and classification of the fragments the analytical data are collected by using pXRF Bruker.

All phases of the study are recorded and documented by photos and microscopy of details. This research was carried out within the state assignment of the Ministry of Science and Higher Education of the Russian Federation (theme "Pre-Mongol frescoes in Novgorod: archaeological context and scientific research: The frescoes of St. George's Cathedral, Yuriev monastery, from the 2013–2020 excavations").

**Mots-Clés:** Russian, Byzantine frescoes, Veliky Novgorod, Yuriev Princely Monastery, pXRF, microscopy, pigments.

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