This September, thanks to the Stahl Endowment grant, I analyzed a few selected Middle Bronze Age (2000-1550 BCE) artifacts from the site of Kamid el-Loz, a settlement located in the Beqa’a Valley of Lebanon. The excavation of Kamid el-Loz is directed by Prof. Dr. Marlies Heinz, from the Freiburg University, Germany. The objects analyzed are presently preserved at the National Museum of Beirut, Lebanon. This research period was meant to collect additional data regarding the chemical composition of the artifacts to be included in my dissertation, entitled “Economic Systems in Lebanon and Southwestern Syria during the Middle Bronze Age: A Case Study from Kamid el-Loz,” which analyses the material culture recovered from the site of Kamid el-Loz to propose a discussion and reconstruction of the ceramic vessel economic systems operating at Kamid el Loz and in the Beqa’a Valley during the Middle Bronze Age. I spent one week at the National Museum of Beirut, making use of a portable XRF, a fast non-destructive instrument, to examine archaeological artifacts that otherwise could not have been analyzed with other methods.

Due to the recent political instability in Syria and the repercussions of this turbulence for the neighboring countries, such as Lebanon, the excavation that was planned for the 2013 season was canceled, compelling me to change my plans to extend the analysis to a larger number of artifacts. I was extremely glad and grateful to receive permission from the museum authorities to have access to the excavation objects present in the museum from the previous excavation seasons.

The aim of my dissertation research is to investigate the ceramic economy of the site of Kamid el-Loz. A total of fifteen objects were analyzed. The artifacts studied included mainly complete ceramic vessels and, more specifically, three Levantine Painted Ware juglets, a type of ware that is commonly assigned to the Middle Bronze Age culture in the Levant. These juglets were recovered between the excavation seasons of 2008-2011 at Kamid el-Loz. The primary intent of my mission was to examine closely these Levantine Painted Ware juglets (Fig. 1-3) which were found in the Middle Bronze Age Palace rooms. A LPW juglet (Fig.1) was found in room 8 of the palace, while a LPW with a spiral design derived from a child burial, unearthed in room 5 (Fig. 2). Another broken juglet with spiral designs was uncovered in palace room 6 (Fig.3). Other objects inspected from the Middle Bronze Age palace included three seal impression from room 8 and room 7 and four loom weight from room 8.

The XRF spectra was collected at 40 kV, 24 micro amps, with a yellow filter (Ti- Al). The analysis was made visually clean of incrustation or dirt. Different surface areas of the artifacts were evaluated and the analysis obtained confirmed a high percentage of iron (Fe) in the chemical composition of the vessel. This was particularly true on the decoration patterns applied to these vessels. The patterns that are found often applied on the surface of the vessels ranged from a dark brown to light red color because of the high quantity of Iron (Fe). In general, the results attest the presence of the following elements: Aluminum (Al), Calcium (Ca), Silicon (Si), Iron (Fe).

The areas not characterized by painted decorations demonstrated a high percentage of Fe and Ca in their composition. These values are also corroborated by the analysis that was made one year ago using a
Scanning Electron Microscope (SEM) and X-Ray Diffraction (XRD). The LPW juglets were fired at high temperatures; the mineral inclusions visible were minimal. It is most probable that the source of clay for this type of vessels is local. A study previously conducted on the soil type available in the Beqa’a and in the vicinity of the site of Kamid el Loz indicated that, in the area of Kamid el Loz, the soil is highly calcareous, with calcium carbonate content.

The site of Kamid el-Loz is the only site under excavation in the southern Beqa’a Valley and it is one of the very few being investigated in the entire Beqa’a. The study of the material culture from this site will provide valuable information on this area during the Middle Bronze Age. The use of the portable XRF can be of great value in a situation where it is difficult to conduct other types of analyses that often lead to the destruction of the piece.

I would like to thank the Archaeological Research Facility and the Stahl Endowment Fund for their assistance, granting me the opportunity to cover the expenses to conduct this important research in Lebanon and for allowing me to use the XRF.
Figure 2.

Figure 3.