1145-46-1130 **Gaston M N'Guerekata*** (gaston.n'guerekata@morgan.edu), 1700 E Cold Spring Ln, Baltimore, MD 21251. *Eberlein-weakly almost periodic (in Stepanov - like sense) functions and applications.* Preliminary report.

In this talk, we prove a number of properties concerning a (new) class of (Stepanov - like) Eberlein-weakly almost periodic (S^P-E.w. a. p.) functions with values in a Banach space. We use the results obtained to study the asymptotic behavior of solutions to the evolution equation :

$$u(t) = \int_{-\infty}^{t} a(t-s)[Au(s) + f(s)]\, ds,\ t \in \mathbb{R},$$

where A is the generator of an integral resolvent family in a Banach space $\mathbb{X}$, $a \in L^1(\mathbb{R})$, and f is a given $\mathbb{X}-$ valued function on $\mathbb{R}$. The objective is to deduce Eberlein-weak almost periodicity (in Stepanov - like sense) of the solution u from corresponding properties on the part f. (Received September 19, 2018)