1106-60-1687 **Dong Hyun Cho*** (j94385@kyonggi.ac.kr), Department of Mathematics, Kyonggi University, Suwon, Kyonggido 443-760, South Korea. *Generalized conditional Wiener integrals and their applications over analogues of Wiener paths.*

Let $C[0,T]$ denote a generalized Wiener space and let $\{e_j : j = 1, 2, \cdots\}$ be a complete orthonormal subset of $L_2[0,T]$. Suppose that each e_j is of bounded variation. For each $j \in \mathbb{N}$ define $z_j : C[0,T] \to \mathbb{R}$ by the stochastic integral

$$z_j(x) = \int_0^T e_j(s)dx(s),$$

where the integrals denote the Paley-Wiener-Zygmund stochasticintegral. For each $n \in \mathbb{N}$ define $Z_n : C[0,T] \to \mathbb{R}^n$ and $Z : C[0,T] \to \mathbb{R}^{\aleph_0}$ by

$$Z_n(x) = (x(0), z_1(x), \cdots, z_n(x))$$

and

$$Z(x) = (x(0), z_1(x), z_2(x), \cdots).$$

In this talk we derive two simple formulas for generalized conditional Wiener integrals of functions on $C[0,T]$ with the conditioning functions Z_n and Z which contain the initial distribution. We derive a joint probability density function of random variables $x(0), z_1(x), \cdots, z_n(x)$ which have a multivariate normal distribution if the initial distribution is the Dirac measure concentrated at 0. As applications of these simple formulas and the normal distribution we evaluate generalized conditional Wiener integrals of the function $\exp\{\int_0^T Z(x,t)dm_L(t)\}$ including a time integral on $C[0,T]$. (Received September 15, 2014)