Jimmy Mc Laughlin* (jmclaughl@wcupa.edu), Math. Dept., 25 University Avenue, West Chester University, West Chester, PA 19383, and Peter Zimmer. General WP-Bailey Chains.

Motivated by a recent paper of Liu and Ma, we describe a number of general WP-Bailey chains. We show that many of the existing WP-Bailey chains (or branches of the WP-Bailey tree), including chains found by Andrews, Warnaar and Liu and Ma, arise as special cases of these general WP-Bailey chains.

We exhibit three new branches of the WP-Bailey tree, branches which also follow as special cases of these general WP-Bailey chains.

Finally, we describe a number of new transformation formulae for basic hypergeometric series which follow from these new WP-Bailey chains. (Received January 18, 2009)