1116-05-444 **Feryal Alayont*** (`alayontf@gvsu.edu`), GVSU Math Department, 1 Campus Dr., Allendale, MI 49504. *Combinatorial Interpretations of Generalized Central Factorial and Genocchi Numbers.*

Classical rook theory concerns non-attacking rook placements on two-dimensional chess boards. The motivation for studying such rook placements comes from permutations with restrictions. One way to generalize the classical rook theory to higher dimensions is by letting rooks attack along hyperplanes. With this generalization, families of boards in three and higher dimensions give rise to rook number interpretations of generalized central factorial and Genocchi numbers. Similar to interpreting two-dimensional rook placements as permutations with restrictions, we will provide an interpretation of these higher dimensional rook placements combinatorially, leading to a combinatorial interpretation of the generalized central factorial numbers in terms of ordered tuples of partitions whose minima are equal, and a new combinatorial interpretation of generalized Genocchi numbers as ordered tuples of permutations with conditions. (Received September 01, 2015)