1116-20-1052 **Harald Ellers*** (hellers@allegheny.edu), Dept. of Mathematics, Allegheny College, 520 N. Main St., Meadville, PA 16335, and **Craig J. Dodge** (cdodge2@allegheny.edu), Dept. of Mathematics, Allegheny College. *Specht modules, simple modules, and a kernel intersection theorem for centralizer algebras of the symmetric group.* Preliminary report.

Let Σ_n be the symmetric group. For $l \leq n$, Σ_l is naturally identified as a subgroup of Σ_n. Let k be an algebraically closed field of characteristic p. The algebra $k{\Sigma_n}^{\Sigma_l}$ is the centralizer in the group algebra $k\Sigma_n$ of $k\Sigma_l$. The authors are engaged in a project to find all simple $k{\Sigma_n}^{\Sigma_l}$-modules.

In the 1970's, James produced a construction of all simple $k\Sigma_n$-modules. He associates to each partition λ of n a $k\Sigma_n$-permutation module M^λ. The Specht module S^λ is the intersection of the kernels of certain homomorphisms with domain M^λ, and $S^{\lambda\perp}$ is the sum of the images of certain homomorphisms with codomain M^λ. The module $D^\lambda := S^\lambda/(S^\lambda \cap S^{\lambda\perp})$ is 0 or simple.

We investigate an analogous construction for $k{\Sigma_n}^{\Sigma_l}$, with role of the permutation modules played by the $k{\Sigma_n}^{\Sigma_l}$-modules $\mathcal{M}^{\lambda,\mu} := \mathrm{Hom}_{\Sigma_l}(M^\mu, {M^\lambda}_{k\Sigma_l})$, where λ is a partition of n and μ is a partition of l. For some choices of n and l, the results look very much like the classical results. (Received September 16, 2015)