

*Speaker:*     **Jeziarski, Jerzy**  
*Title:*        *Wecken Type Theorems for Periodic Points*  
*Authors:*    Jerzy Jeziarski  
*Affiliations:* University of Agriculture, POLAND

*Abstract:* The classical Wecken theorem claims that any self-map  $f : M \rightarrow M$  of a compact manifold of dimension  $\geq 3$  is homotopic to a map having exactly  $N(f)$  fixed points where  $N(f)$  denotes the Nielsen number. In 1983 Boju Jiang introduced an algebraically computable number  $NF_n(f)$  which is an estimate of the cardinality of  $n$ -periodic point set  $\{x \in M; g^n(x) = x\}$  for each  $g$  homotopic to  $f$ .

We prove that every self-map  $f : M \rightarrow M$  of a compact PL-manifold of dimension  $\geq 3$  is homotopic to a map realizing this number i.e. there exists a  $g$  homotopic to the given map  $f$  and having exactly  $NF_n(f)$   $n$ -periodic points. In particular (for  $NF_n(f) = 0$ ) the map  $f$  is homotopic to map with no  $n$ -periodic points iff all Nielsen numbers  $N(f^k)$ , for all  $k$  dividing  $n$ , disappear.