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**Keng Meng Ng\*** ([selwynng@math.wisc.edu](mailto:selwynng@math.wisc.edu)), Department of Mathematics, University of Wisconsin, 480 Lincoln Drive, Madison, WI 53706-1388, Madison, WI 53706. *Degrees of members of  $\Pi_1^0$  classes.*

Given a Turing degree  $\mathbf{a}$  we say that  $\mathbf{a}$  is realized in a  $\Pi_1^0$  class  $P$  if  $P$  contains a path of degree  $\mathbf{a}$ . In this talk we will give a selection of results regarding the possible classes of Turing degrees which can be realized in  $\Pi_1^0$  classes. We discuss some recent joint work with various authors (Barbara Csima, Rod Downey, Liang Yu, Yue Yang). We show that given any c.e. degree  $\mathbf{a}$  there is a perfect  $\Pi_1^0$  class  $P$  which realizes  $\mathbf{a}$  and no other c.e. degree. We also discuss the complexity of index sets which can be realized in this way. We show that there is an uncountable  $\Pi_1^0$  class where every path has hyperimmune-free degree. (Received September 13, 2010)